ECONOMICS AND HEALTH POLICY

XIIIth CIOMS Round Table Conference

Editors: A. Griffiths and Z. Bankowski



PUBLISHED JOINTLY BY THE COUNCIL FOR INTERNATIONAL ORGANIZATIONS OF MEDICAL SCIENCES AND THE SANDOZ INSTITUTE FOR HEALTH AND SOCIO-ECONOMIC STUDIES Council for International Organizations of Medical Sciences (CIOMS) c/o World Health Organization Avenue Appia 1211 Geneva 27

The Council for International Organizations of Medical Sciences is an international non-governmental scientific organization established jointly by Unesco and WHO in 1949. It is essentially a federation of non-governmental international societies or unions representing specialized branches of medical sciences and practice. CIOMS has also national members, usually national medical or scientific academies or research councils, and associate members which include international, regional or national associations or societies representing various branches of biomedicine. In 1980 there were forty-three International Members, twenty-seven National Members and twenty-two Associate Members, making a total of ninety-two member organizations.

Sandoz Institute for Health and Socio-Economic Studies 5, route de Florissant 1206 Geneva

The Sandoz Institute, opened in 1974, has five main objectives: to improve the pharmaceutical industry's understanding of its present and future social, economic and political environment; to catalyze practical health care research; to promote communication between the many parties involved in health care; to encourage creative and original approaches to health problems; to collaborate with individuals and organizations in different countries in both doing research and applying its findings. The Institute's activities are interdisciplinary and international, and include a wide range of health services research; organization of meetings of various kinds; publication of its research findings; and participation in practical implementation of proposals.

Cover by Adrian Griffiths

ISBN 92-9036-004 6

ECONOMICS AND HEALTH POLICY

Proceedings of the XIIIth Round Table Conference Geneva, Switzerland, 8-9 November, 1979 Edited by: A. Griffiths and Z. Bankowski

Published jointly by the COUNCIL FOR INTERNATIONAL ORGANIZATIONS OF MEDICAL SCIENCES and the SANDOZ INSTITUTE FOR HEALTH AND SOCIO-ECONOMIC STUDIES

Geneva 1980

Programme Committee

- A. Gellhorn, President, CIOMS
- A. Griffiths, Sandoz Institute (programme secretary)
- B. Kleczkowski, World Health Organization
- E. Mach, World Health Organization
- Z. Bankowski, Executive Secretary, CIOMS

This conference was organized by CIOMS with the collaboration and financial assistance of the Sandoz Institute for Health and Socio-Economic Studies, Geneva, and the World Health Organization. Financial assistance was also provided by the United States Public Health Service.

Copyright © 1980 by Council for International Organizations of Medical Sciences (CIOMS).

Publications of the Council for International Organizations of Medical Sciences (CIOMS) enjoy copyright protection in accordance with the provision of Protocol 2 of the Universal Copyright Convention.

Printed in Switzerland

CONTENTS

INTRODUCTION	1
OPENING ADDRESS - T.A. Lambo	9
FIRST SESSION: HEALTH PROBLEMS AND SERVICES: THE ECONOMIC CONTEXT	
- Economics and health policy: An overview - B. Abel-Smith	21
- Economics and health in developing countries - <u>G.L. Monekosso</u>	37
countries - <u>A. Griffiths</u>	52
Invited Discussion Mach; Cochrane; Park; Laurent	70
Open Discussion Rapoport; Bidwell; Hardie; Peretz; Sahni; Van Langendonck; Kasonde; Burrell; Marketos; Zweifel; Cumper; Logan; Violaki; <u>Bettex</u>	81
SECOND SESSION: ECONOMICS AND PROBLEMS OF MANPOWER AND TECHNOLOGY IN HEALTH SERVICES	
 Allocation of manpower and economic efficiency in medical care - <u>D. Chernichovsky</u> Technological imperatives and economic 	89
efficiency in health care - B.M. Kleczkowski	99
- Pharmaceuticals in the health services: Costs and benefits - <u>G. Teeling-Smith</u> - L'éducation et la formation pour le changement -	115
Le changement dans l'éducation et la formation – <u>D. Flahault</u>	128
Invited Discussion Sahni; Jacobsen; Hodgson	140

Open Discussion171Senanayake; Logan; Gellhorn; Zweifel;Gomaa; Logan; Fernandez de Talens; Khan;Peretz; Kalimo; Sahni; Teeling-Smith;Chernichovsky; Kleczkowski

THIRD SESSION: ECONOMICS, HEALTH SERVICES ORGANIZATION, AND FINANCE

-	Health services organization and finance:	
_	Options and implications - M.I. Roemer	179
	and direct provision - <u>G.A. Popov</u>	195
-	Strategies for change: Finance and	207
-	regulation - <u>K. Kohn</u> Organization and financing of health services: Strategic choices for developing countries -	207
	D.B. Sebina	233
	Invited Discussion	253
	Gomaa; Sandier; Kalimo; Tschopp; Rutten;	
	Martin	
	<u>Open Discussion</u> <u>van Balen; Wyn</u> en; <u>Mabeck; Tankari; Demeny;</u> <u>Chernichovsky</u>	283
FOURTH	SESSION: IMPLICATIONS AND REQUIREMENTS FOR CHANGE	
-	Summary of conclusion: from the previous three sessions Gellhorn; Adadevoh; Aujaleu; Griffiths	291
-	Priorities for research and follow-up - Abel-Smith	296

Open Discussion	300
Gish; Adadevoh; Logan; Hardie; Cumper;	
Peretz; Fernandez Perez de Talens; Rumeau-	
Rouquette; Gomaa; Rapoport: Kleczkowski;	
Abelin; Violaki; Fiori; Logan: Sintonen;	
Sahni; Deliège	
SUMMARY OF CONCLUSIONS - B. Abel-Smith	306
FORMAL CLOSUPE - A Collborn	300
A. GETHOLI	505
Participants	310

Each paper is followed by a short summary in English or in French, as appropriate.

Chaque communication est suivie d'un bref résumé en anglais ou en français selon le cas.

INTRODUCTION

The Council for International Organizations of Medical Sciences (CIOMS) has developed, as part of its principal programme, an interdisciplinary forum to enable the scientific and lay communities to express their views on topics of immediate concern unhampered by administrative, political or other considerations. Over the past decade, a series of Round Table Conferences has been organized, designed to express not only the scientific and technical basis of new developments in biology and medicine, but also to explore their social, ethical, moral, administrative, economic and legal implica-Thus the participants in these Round Tables are prominent tions. representatives of their respective fields of medicine, biology and science, including the social sciences, philosophy, theology, and law. It is felt that this multidisciplinary approach can best provide insight to issues that are no longer exclusively within the specialized domain of any one profession.

The present Round Table on 'Economics and Health Policy' enters a new area of increasingly urgent concern to the health and social sciences. Economic considerations have a major influence on almost all the basic aspects of our lives; on food, housing, clothing, work, lifestyle and of course health. The nature and level of economic development of a country is a major determinant of the health problems it is likely to face, and of the level of health service it is able to provide, while its economic philosophy and institutional organization will largely determine how such services are produced and distributed. Health policy, the concepts, priorities and objectives concerning the health of the population and the programmes to be pursued by the health services, is clearly influenced by such economic considerations.

The health problems of the developing countries, are to a large extent the problems of poverty; lack of clean water supplies, inadequate food, poor and overcrowded housing and severe limits on resources, including health service resources. The health problems of the developed countries are largely those of affluence; degenerative and chronic diseases, often heavily influenced by lifestyle, stress and excessive consumption. Even the richest countries cannot meet all the health needs of their population, and the extension of health service coverage, increasing expectations by the population, and rapid progress in health sector costs. This is even more evident in countries with limited resources.

The policy issues now being raised in developing and developed countries, apart from the causative factors, are remarkably similar :

how can health service coverage of the population be improved ? and how can they be applied more effectively ? In short how can we get better value for money ? The implications of such questions are extremely far reaching at all levels from the total system (macro level) to individual health institutions or indeed individual health workers (micro level).

There is a bewildering variety of mechanisms for financing and organizing health services. Are they adequate and suitable for our needs ? In many countries the systems adopted have failed to correct massive imbalances of provision between urban and rural areas, indeed many intervention programmes have contributed to the concentration of services on the better off, those covered by social security, wage earners, or certain groups such as government employees, to the detriment of the majority living by subsistence farming in the rural areas.

Equally, there is a wide range of choices about the manpower and technology used to produce health services. There is an increasing tendency to question the assumption that more and more sophisticated manpower and technology is always necessary, appropriate, and beneficial, regardless of cost. This is particularly true at the primary care level. When the average cost of supporting a physician in the USA is estimated at \$ 300,000 a year, even the richest countries are being forced to match skills to tasks more efficiently, with the introduction of nurse practitioners, physician extenders, etc. The constraints on poor countries are far greater, and for many it is neither feasible nor desirable to provide physician and hospital based services to the whole population, to achieve the goal of 'health for all by the year 2000'. The only feasible solution for them to achieve this goal is to adopt new strategies, with many more less highly trained primary health care staff, and an appropriate level of technology.

Such developments imply equally profound changes at the individual level. Physicians and other health professionals must be prepared to reconsider their roles and interrelationships. Clinical freedom may be linked to budgetary responsibility, rather than leaving the cost consequences of medical decisions aside for someone else to deal with. Indeed failure to respond to these growing pressures may simply provoke more limiting controls imposed from outside.

Clearly such trends involve a more flexible approach to education and training to provide the capacity for development and change. In other sectors major changes have often provoked narrow professional protectionism to maintain exclusive rights to particular fields of work and skill. Considerable attention will therefore be needed to ensure that decision making for change is positive and participative.

These questions have not been differentiated between developed and developing countries because they apply to both, only the answers may differ. Indeed, if the developing countries succeed in taking a more original approach in their health policies, they may well paradoxically provide valuable lessons for the developed world, whose services they have so long tended to emulate and whose mistakes they have so often inherited.

Health policy makers, the health professions, and the people whom they serve, are increasingly aware of the inadequacies, the potential and the costs of health services. There is a major worldwide trend to seek improvements by a more medically and economically rational approach to health service provision. Clearly the health professions should play a leading and positive part in such an effort. It is hoped that this conference will provide a useful forum for them to do so.

This conference was designed to bring together health professionals particularly physicians, other medical scientists, and administrators, in senior service, research and policy making/influencing roles, and economic and social scientists, to discuss the interaction of economics and policy in the health sector.

The specific objectives of the conference were:

- to review the economic context of current health problems and the economic characteristics of the health services being developed to meet them
- to examine the implications of a more medically and economically ration approach to health services, planning and management
- to identify and specify those areas of the health services where:
 - (a) present knowledge is adequate and the main effort required is in the implementation of appropriate systems;
 - (b) present knowledge is inadequate and further health service research is needed.

A. Griffiths Z. Bankowski

INTRODUCTION

Le Conseil des Organisations Internationales des Sciences Médicales (CIOMS) a développé, dans le cadre de son programme principal, un forum interdisciplinaire pour permettre aux cercles scientifiques et profanes de s'exprimer sur des sujets de préoccupation actuels, indépendamment de toutes contraintes administratives, politiques et autres. Depuis une dizaine d'années, une série de Tables Rondes ont été organisées pour, non seulement discuter les fondements scientifiques et techniques des nouveaux développements en biologie et en médecine, mais aussi explorer leurs implications éthiques, morales, administratives, économiques et juridiques. Ainsi, les participants à ces Tables Rondes sont des représentants éminents de leurs champs d'activité respectifs, en médecine, en biologie et en sciences, y compris les sciences sociales, en philosophie, en théologie et en droit. On considère que cette approche multidisciplinaire est la plus appropriée pour aborder les questions qui ne sont plus du ressort exclusif d'une seule profession.

La présente Table Ronde sur 'Economie et Politique de la Santé' s'engage dans un nouveau champ de préoccupation, qui s'impose de plus en plus impérieusement aux sciences de la santé et aux sciences sociales. Des considérations économiques ont une influence importante sur presque tous les aspects fondamentaux de nos vies, sur l'alimentation, l'habitat, l'habillement, le travail, le mode de vie et, bien sûr, la santé. Le type et le niveau de développement d'un pays constituent des facteurs déterminents pour les problèmes de santé auxquels il est susceptible d'être confronté, comme pour le niveau des services de santé qu'il pourra fournir, tandis que sa conception de l'économie et son organisation institutionnelle déterminent, dans un large mesure, les modalités de production et distribution de tels services. La politique de la santé, les concepts, priorités et objectifs concernant la santé de la population, ainsi que les programmes à appliquer par les services de santé, sont à l'évidence influencés par de telles considérations économiques.

Les programmes de santé des pays en voie de développement sont, dans une large mesure, des problèmes de pauvreté: le manque d'approvisionnement en eau potable, une alimentation inadéquate, un habitat rudimentaire et surpeuplé et une restriction sévère des ressources, y compris celles disponibles pour les services de santé. Les problèmes de santé des pays développés sont, pour la plupart, ceux de l'affluence, des maladies dégénératives et chroniques, souvent fortement

4

influencées par le mode de vie, le stress et une consommation poussée à l'excès. Même les pays les plus riches ne peuvent pas faire face à tous les besoins sanitaires de leur population, et l'élargissement de la couverture des services, l'évolution des exigences de la population et les progrès rapides de la technologie de la santé ont été accompagnés d'un accroissement massif des coûts dans le secteur de la santé. Ceci est encore plus évident dans les pays n'ayant que des moyens limités.

Les questions de politique de la santé qui sont soulevées, maintenant, dans les pays développés et dans les pays en voie de développement, sont, si l'on excepte les facteurs causatifs, remarquablement similaires: comment peut-on améliorer la couverture de la population par les services de santé et comment peut-on appliquer les services d'une manière plus efficace ? Bref, comment valoriser nos dépenses ? La portée de telles questions va extrêmement loin, à tous les niveaux, du système total (macro) à chaque institution prise individuellement et à chaque individu travaillant dans les services (micro).

Il y a une diversité ahurissante de mécanismes de financement et d'organisation des services de santé. Sont-ils adéquats et adaptés à nos besoins ? Dans plusiers pays, les systèmes adoptés n'ont pas pu corriger les déséquilibres dans l'offre des services entre régions urbaines et rurales; en effet, beaucoup de programmes d'intervention ont contribué à la concentration des services en faveur des plus aisés, ceux qui bénéficient de la sécurité sociale, des salariés ou de certains groupes, tel celui des fonctionnaires, au détriment de la majorité, qui vit d'une agriculture de subsistance dans les régions rurales.

De la même façon, il y a une grande gamme de choix à propos du personnel et de la technologie à utiliser dans la production des services de santé. On observe une tendance croissante à mettre en question l'hypothèse voulant qu'un personnel et une technologie de plus en plus sophistiqués soient toujours nécessaires, appropriés, bénéfiques, indépendamment de toutes considérations de coût. Ceci est particulièrement vrai au niveau des soins primaires. Maintenant que le coût moyen d'un médecin, aux Etats-Unis, est estimé à \$ 300.000, - par an, même les pays les plus riches sont obligés d'ajuster d'une manière plus efficiente les compétences aux tâches, par l'introduction de 'nurse practitioners', de 'physician extenders', etc. Les contraintes dans les pays pauvres sont beaucoup plus grandes et, pour nombre d'entre eux, il n'est, ni faisable, ni souhaitable de couvrir toute la population par des soins axés sur des médecins et des hospitaux pour chercher à atteindre l'objectif 'La santé pour tous en l'an 2000'. La seule façon, pour eux, d'atteindre ce but, est d'adopter de nouvelles stratégies, utilisant bien plus de personnel de soins primaires d'une formation moins poussée et un niveau de technologie approprié.

De tels développements impliquent des changements tout aussi profonds au niveau individuel. Les médecins et les autres professions sanitaires doivent accepter de reconsidérer leurs rôles et leurs rapports réciproques. L'indépendance de la décision clinique sera peut-être liée à la responsabilité budgétaire, et les conséquences financières des décisions médicales ne seront plus laissées à d'autres. Ne pas prendre en considération ces pressions qui s'expriment de façon croissante, pourrait, en effet, déclencher des contrôles plus sévères, imposés de l'extérieur.

Evidemment, de telles tendances demandent une approche plus souple dans la formation générale et professionnelle afin de fournir les capacités nécessaires pour le développement et le changement. Dans d'autres secteurs, des changements majeurs ont souvent provoqué un protectionnisme étroit pour maintenir des droits exclusifs à un champ de travail et de compétence donné. Il faudra, donc, veiller particulièrement à assurer que la prise de décision pour des changements soit abordée de façon positive et avec la participation de tous les intéressés.

Ces questions n'ont pas été différenciées selon les pays développés et les pays en voie de développement, parce qu'elles s'appliquent aux deux groupes, et seules les solutions peuvent différer. En effet, si les pays en voie de développement réussissent à adopter une approche plus originale dans leur politique de la santé, ils fourniront peut-être, paradoxalement, un enseignement important au monde développé, dont ils ont pendant si longtemps chercher à imiter les services de santé, en héritant, bien souvent, de leurs erreurs.

Les responsables des politiques de la santé, les professions sanitaires et ceux qu'ils desservent sont de plus en plus sensibles aux lacunes, aux potentiels et aux coûts des services de santé. La tendance se manifeste à l'échelle mondiale à adopter une

6

approche plus rationnelle, du point de vue médical et économique, à l'offre des services de santé, pour remédier à la situation. De toute évidence, les professions de la santé doivent s'engager de façon positive dans cet effort et aider à le conduire. Nous espérons que cette conférence leur fournira un forum qui puisse leur permettre de jouer ce rôle.

Cette conférence avait pour but de réunir les professions sanitaires, notamment les médecins, d'autres scientifiques médicaux, et des administrateurs, ayant des postes ou des rôles consultatifs importants dans la recherche ou la politique de la santé, et des spécialistes de l'économie et des sciences sociales, en vue de discuter l'interaction de l'économie et de la politique dans le secteur sanitaire.

Les objectifs spécifiques de la conférence étaient:

- Passer en revue le contexte économique des problèmes actuels de la santé et les caractéristiques des services de santé développés pour leur faire face.
- Examiner les implications d'une approche plus rationnelle du point de vue médical et économique dans la planification et la gestion des services de santé.
- Identifier et préciser les domaines des services de santé où:
 - (a) les connaissances actuelles sont adéquates et où l'effort principal devrait se porter sur leur intégration dans des systèmes appropriés.
 - (b) les connaissances actuelles sont inadéquates et où d'avantage de recherches en matière de services de santé sont nécessaires.

A. Griffiths Z. Bankowski

OPENING ADDRESS

T.A. Lambo

First of all I should like to welcome you warmly to this CIOMS Round Table Conference on Economics and Health Policy. At the same time, I should like to take this opportunity to discuss some of WHO's concerns in this important field.

I am sure that many of you will be aware of the important developments that have occurred over the last few years in the health sector as a result of common action by WHO's Member States. In 1976, faced with enormous health problems in the developing countries and a grossly inequitable distribution of health resources throughout the world, the World Health Assembly set in motion a major reorientation of its technical cooperation activities. The following year, it took that reorientation a step further by proclaiming as the Organization's main social goal: 'The attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life.' This target for our efforts to strengthen health services and to bring health care to rural and other underserved populations has become popularly known as 'Health for all by the year 2000'.

Because resources for health are inevitably limited, both consumers and providers of health services are affected by economic constraints. The individual suffers if the health infrastructure and services are inadequate, while the providers doctors and other health personnel - are often limited in their actions by the lack of resources. At the same time, many developing countries have modelled their health strategies on those of the industrialized countries, which, when transposed to a different setting, have often proved to be a failure. The tendency has been to create relatively sophisticated health services staffed by highly qualified personnel, in the hope of expanding them progressively as resources increase until the entire population is covered. The outcome has often been quite different. Services have largely become centred in the cities and towns, they have been predominantly curative in nature, and they have remained accessible chiefly to a small and privileged section of the population. In terms of human, physical, and financial resources, the demands of extending hospital- and physician-oriented services over the whole country, to serve the whole population, have proved too great.

The realization of these problems has led WHO Member States to focus on primary health care as their main strategy in reaching the Organization's ambitious goal. This decision was emphatically endorsed at last year's UNICEF/WHO International Conference on Primary Health Care. Primary health care is defined in the Alma-Ata Declaration which emerged from that Conference as 'essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination'. The Declaration goes on to state that primary health care 'forms an integral part both of the country's health system, of which it is the central funcion and main focus, and of the overall social and economic development of the community'.

Planners throughout the world now realize that health development can be a prime mover in social and economic development in general. Productive manpower is essential for socioeconomic development; but if people are to be productive they must enjoy a satisfactory level of health; only then will they be able to improve their work capacity and help to create the conditions required for improving their own well-being and that of the society to which they belong. In the words of the Declaration of Alma-Ata: 'Economic and social development, based on a New International Economic Order, is of basic importance to the fullest attainment of health for all and to the reduction of the gap between the health status of the developing and developed countries. The promotion and protection of the health of the people is essential to sustained economic and social development and contributes to a better quality of life and to world peace.'

The affluent countries, too, have their problems. The rising cost of inappropriately organized health care is putting a growing burden on the finances of both individuals and communities. The fundamental policy questions now being raised in many countries will have far-reaching consequences if the conclusions are followed up with determination. For example, is medical care, which may rely on social security, public revenues, or private insurance schemes, properly organized and financed ? A number of industrialized countries are beginning to recommend simpler medical technologies, a different emphasis in health manpower, alternatives to hospital treatment, and a reduction in drug use.

10

For very similar reasons, many developing countries are also looking for alternative approaches to the reorientation of the existing health sector. This may involve the use of far more numerous health personnel, with shorter training than in the past, living as members of the community they serve; the application of simpler but appropriate technologies, including recourse to a reduced number of selected essential drugs; and community involvement in the establishment and running of local health services.

The crux of the matter is the creation of the economic basis for a reoriented, expanded health sector. The first question that arises is: how to finance this ? While it is unlikely that we have a complete answer backed by adequate evidence, many of those who help to make policy believe that conventional sources of financing will continue and in many countries perhaps increase. These conventional sources include public funds, taxes, social security schemes, and the purchasing power of individuals. However, new sources will have to be mobilized, community resources tapped, insurance schemes established, and foreign development assistance put to better use. Other inputs for economic development, such as food, housing, and water, will have to be coordinated in a more efficient way.

Policies in the field of health, as in other socioeconomic sectors, are formed under the influence of many factors: history, cultural background, climate, geographical location, and level of economic development are all important. Traditionally, the providers of health care - mainly the physicians - have always played a leading role in establishing health policy, within the limits of political and economic possibilities. The decisions they take are bound to carry economic and social consequences which they are not necessarily best placed to judge. There is always a danger that health services may become inaccessible to certain population groups because of their high price; or socially financed health services may use up an excessive part of a nation's resources. The reaction to such situations may provoke political and economic pressures affecting both the providers and the consumers of health services.

The subject of your meeting is so fundamental that it plays a part in virtually all WHO's programmes and projects carried out in cooperation with Member States, institutions, and nongovernmental organizations. However, I would like to name a few projects that are directly relevant to our subject. In line with the discussions of a WHO Study Group which met in 1977, the Organization is collaborating with Member States in surveys aimed at identifying

LAMBO

various approaches to the financing of health services. Studies in a number of countries have shown that appropriate financing mechanisms are crucial in implementing effective health policies. Given the right policies, the health sector can be one of the most powerful instruments for the progressive redistribution of income.

WHO has also stimulated research in respect of expenditures in health. As I have suggested, the governments of developed countries are acutely aware of the rapidly rising costs of health One of the determinants of this cost explosion - already care. approaching one-tenth of the gross national product in some countries - is undoubtedly the mounting expectation of the public supported by the expansion of social security and health insurance. Here the individual providers of health care have a clear responsibility, because it is their judgement that determines the utilization of and demand for medical resources. We must all ask ourselves, since we all play a part in the decision-making process, whether the administrative and technical procedures that we recommend are cost-effective in their broad social and economic implications.

In keeping with its main strategy, WHO is cooperating with developing countries in determining the present and potential costs of primary health care. Great discrepancies are found in the prices paid for equivalent services in different countries, and by different population groups. The organization of health care systems, the way services are financed, and the mechanisms for paying the providers of the services are among the determinants of such discrepancies. The need for a clear role for the State and for rational health planning is paramount, and I am sure that this will be a major topic in your discussions.

There is the critical question of the cost of primary health care services, and here we must be guided by the definition of primary health care as 'essential health care made universally accessible'. To eliminate the variations of coverage in different geographical areas and among different population groups, WHO is collaborating with Member States in planning and monitoring progress towards universal coverage.

The question arises to what extent coverage is feasible in developing countries with resources which, even with the best of policies and the greatest goodwill, will fall far short of those now being spent by the developed countries. Clearly, the efficient allocation of resources and a continous effort to mobilize new resources are highly important. The least we must do is to keep an eye on costs and their relationship to the benefits obtained.

Returning to the international dimension of health economics, the measures being taken throughout the United Nations system to establish a New International Economic Order are most relevant to the pursuit of health for all. Indeed, the subject of the Technical Discussions at the 1980 World Health Assembly will be 'The contribution of health to the New International Economic Order'. One of the objectives of this New Order is to redress the unacceptable economic imbalances between developing countries and affluent countries. A11 development sectors have a part to play in this process. A new health order in which resources are fairly distributed must be a part of the new social order which is the ultimate purpose of development. Thus WHO is stressing the need to secure fair terms of exchange - fair prices, reliable quality, and so on - for the drugs, equipment, facilities, and technology that developing countries must acquire from the more industrialized ones. Examples of this are WHO's drug policies and management programme, and the action programme on essential drugs.

The Organization attaches great importance to cooperating with developing countries to increase their capacity for the local production of drugs and equipment, thus reducing their economic dependence in the health field and widening their self-reliance and possibilities of choice.

The goals set by WHO's Member States are ambitious, and the health professions and sciences are in need of economic advice at various levels. Here I am sure you can assist us. For example, I believe that Ministers of Health need support in making the case for health expenditure as a contribution to improved manpower productivity and improved economic performance. Such expenditure is thus a worthwhile investment, and not merely a drain on financial resources. You will also doubtless be considering the training and research needed to increase national and international ability to give sound economic advice in health matters.

We are most fortunate in having with us, at this meeting, medical scientists and health economists who are particularly qualified to give an authoritative analysis of the whole field of economics and health policy. I am confident that we can look forward to a lively exchange of views on a subject which we in WHO consider vital in attaining the goal of health for all by the year 2000.

ALLOCUTION DE BIENVENUE

T.A. Lambo

Permettez-moi d'abord de vous accueillir chaleureusement à cette table ronde du CIOMS sur le thème 'Economie et politique de la santé'. Je voudrais en même temps profiter de cette occasion pour examiner quelques-unes des préoccupations de l'OMS dans cet important domaine.

Je suis convaincu que bon nombre d'entre vous sont conscients des progrès importants qui ont été réalisés au cours des dernières années dans le secteur de la santé à la suite de l'action commune des Etats membres de l'OMS. En 1976, face aux énormes problèmes de santé dans les pays en développement et à une répartition extrêmement inégale des ressources sanitaires à travers le monde, l'Assemblée mondiale de la santé a mis en oeuvre une importante réorientation de ses activités de coopération technique. L'année suivante, elle a fait un pas en avant en proclamant que le principal objectif social de l'organisation était 'que tous les citoyens du monde atteignent en l'an deux mille un niveau de santé qui leur permette de mener une vie socialement et économiquement productive.' Cet objectif fixé à nos efforts, en vue de renforcer les services de santé, et de les mettre à la portée des populations rurales et d'autres populations qui en sont insuffisamment pourvues, est connu de tous sous le slogan de 'la santé pour tous en l'an deux mille'.

Les ressources en matière de santé étant inévitablement limitées, les consommateurs comme les fournisseurs de services de santé sont affectés par des contraintes économiques. L'individu souffre si l'infrastructure et les services de santé sont inadéquats, tandis que les fournisseurs - médecins et autres personnels de santé - sont souvent limités par le manque de ressources. En même temps, de nombreux pays en développement ont modelé leurs stratégies en matière de santé sur celles des pays industrialisés, alors que, transposés dans un cadre différent celles-ci se sont souvent soldées par un échec. On a constaté une tendance à créer des services de santé relativement sophistiqués, assurés par un personnel hautement qualifié, dans l'espoir de les étendre progressivement, au fur et à mesure que les ressources se développeraient, jusqu'à couvrir l'ensemble de la population. Le résultat a souvent été très différent. Les services ont essentiellement été concentrés dans les villes et localités urbaines, ils ont été essentiellement curatifs, et ils sont surtout restés accessibles à une petite section privilégiée de la population. En terme de ressources

humaines, matérielles et financières, les exigences de l'augmentation des services orientés vers les hôpitaux et les médecins dans l'ensemble du pays, pour servir l'ensemble de la population, sont apparues trop importantes.

La prise de conscience de ces problèmes a conduit les Etats membres de l'OMS à centrer leur attention sur les soins de santé primaires en tant que stratégie principale pour atteindre l'objectif ambitieux de l'organisation. Cette décision a été énergiquement appuyée lors de la Conférence internationale de la FISE/OMS de l'an dernier sur les soins de santé primaires. Ce sujet est défini dans la déclaration d'Alma-Ata qui a résulté de cette conférence comme étant 'des soins de santé essentiels fondés sur des méthodes et des techniques pratiques, scientifiquement valables et socialement acceptables rendus universellement accessibles à tous les individus et à toutes les familles de la communauté avec leur pleine participation et à un coût que la communauté et le pays puissent assumer à tous les stades de leur développement dans un esprit d'autoresponsabilité et d'autodétermination'. La déclaration se poursuit en indiquant que les soins de santé primaires 'font partie intégrale tant du système de santé national, dont ils sont la fonction centrale et le foyer principal, que du développement économique et social d'ensemble de la communauté'.

Les planificateurs du monde entier comprennent maintenant que le développment de la santé peut constituer un élément moteur fondamental du développement social et économique en général. La main-d'oeuvre productive est essentielle au développement socioéconomique; mais pour que les individus soient productifs, ils doivent bénéficier d'un niveau de santé satisfaisant : c'est seulement dans ces conditions qu'ils seront en mesure de développer leur capacité de travail et de contribuer à créer les conditions requises pour l'amélioration de leur propre bien-être et de celui de la société à laquelle ils appartiennent. Selon les termes de la déclaration d'Alma-Ata : 'le développement économique et social, fondé sur un nouvel ordre économique international, revêt une importance fondamentale si l'on veut donner à tous le niveau de santé le plus élevé possible et combler le fossé qui sépare sur le plan sanitaire les pays en développement des pays développés. La promotion et la protection de la santé des peuples est la condition sine qua non d'un progrès économique et social soutenu en même temps qu'elles contribuent à une meilleure qualité de la vie et à la paix mondiale.'

Les pays riches ont également leurs problèmes. Le coût croissant des services de santé mal organisés constitue un fardeau de plus en plus lourd pour les finances des individus et des communautés. Les questions fondamentales de politique qui se posent actuellement dans de nombreux pays auront des conséquences à long terme si les conclusions sont suivies avec détermination. Par exemple, les soins médicaux, qui peuvent compter sur la sécurité sociale, les fonds publics ou les assurances privées, sont-ils convenablement organisés et financés ? Un certain nombre de pays industrialisés commencent à recommander des technologies médicales plus simples, un accent différent sur la main-d'oeuvre sanitaire, des variantes aux traitements hospitaliers et une réduction de l'utilisation des médicaments.

Pour des raisons tout à fait semblables, de nombreux pays en développement recherchent également des méthodes de rechange pour réorienter le secteur actuel de la santé. Cela peut impliquer la mise en oeuvre d'un personnel sanitaire beaucoup plus nombreux, formé plus rapidement que par le passé, vivant au sein de la communauté qu'il sert; l'application de technologies plus simples mais appropriées, y compris le recours à un nombre réduit de médicaments essentiels et sélectionnés; et la participation de la communauté à la constitution et au fonctionnement de services locaux de santé.

Le noeud de la question est la création des bases économiques propres à un secteur de santé réorienté et élargi. La première question qui se pose est la suivante : comment financer cela ? S'il est peu probable que nous recevions une réponse complète appuyée sur des preuves adéquates, bon nombre de ceux qui contribuent à l'élaboration de la politique considèrent que les sources traditionnelles de financement demeureront et que, dans beaucoup de pays, elles croîtront probablement. Ces sources traditionnelles comprennent les fonds publics, les impôts, des régimes de sécurité sociale et les ressources privées. Toutefois, il conviendra de mobiliser des sources nouvelles, de faire appel à des fonds communautaires, de constituer des plans d'assurances et de mieux utiliser l'aide étrangère au développe-Les autres composantes du développement économique, telles ment. que l'alimentation, le logement et l'eau, devront être coordonnées d'une manière plus efficace.

Les politiques dans le domaine de la santé, comme dans d'autres secteurs socio-économiques, sont élaborées sous l'influence de nombreux facteurs: historiques, culturels, climatiques, géographiques et économiques; tous ont leur importance. Traditionellement, les

16

responsables de la santé - essentiellement les médecins - ont toujours joué un rôle majeur dans l'élaboration des politiques en matière de santé, dans les limites des possibilités politiques et économiques. Les décisions qu'ils prennent entraînent des conséquences économiques et sociales et ils ne sont pas nécessairement les mieux placés pour en juger. Il existe toujours un risque de voir les services de santé devenir inaccessibles à certains groupes de population en raison de leur prix élevé; ou les services de santé à financement social peuvent consommer une part excessive des ressources d'une nation. Le réaction à une telle situation peut provoquer des pressions politiques et économiques affectant aussi bien les fournisseurs que les consommateurs des services.

L'objet de votre réunion est si fondamental qu'il joue un rôle dans presque tous les projets et les programmes de l'OMS poursuivis en collaboration avec les Etats membres, les institutions et les organisations non gouvernementales. Toutefois, je voudrais expressément citer quelques projets qui se rapportent directement à notre sujet. En accord avec les débats d'un group d'étude de l'OMS qui s'est réuni en 1977, l'Organisation participe avec des Etats membres à des études visant à déterminer diverses méthodes de financement des services de santé. Les études dans un certain nombre de pays ont montré que des mécanismes de financement appropriés jouent un role déterminant pour la mise en oeuvre de politiques de santé efficaces. Si les politiques sont justes, le secteur de la santé peut constituer l'un des instruments les plus puissants de la redistribution progressive des revenus.

L'OMS a également stimulé les recherches sur les dépenses de J'ai fait allusion au fait que les gouvernements des pays santé. développés sont particulièrement conscients des coûts en hausse rapide des services de santé. L'un des facteurs déterminants de cette explosion des coûts - qui approche déjà un dixième du produit national brut dans certains pays - est sans aucun doute constitué par les espérances croissantes du public, appuyées par l'expansion de la sécurité sociale, notamment de l'assurance maladie. Dans ce domaine, les fournisseurs individuels des services de santé ont une nette responsabilité, car c'est leur jugement qui détermine l'utilisation et la demande des ressources médicales. Nous devons nous demander, étant donné que nous jouons tous un rôle dans le processus de prise de décision, si les méthodes administratives et techniques que nous préconisons sont efficaces quant à leur coût dans leurs implications sociales et économiques plus larges.

Conformément à sa stratégie principale, l'OMS coopère avec les pays en développement pour déterminer les coûts actuels et potentiels des soins de santé primaires. On constate de grandes divergences dans les prix payés pour des services équivalents dans différents pays et par différents groupes de population. L'organisation de services de santé et les mécanismes de payement de leurs fournisseurs sont parmi les facteurs déterminants de ces divergences. La nécessité d'attribuer un rôle clair à l'Etat et de prévoir une planification rationnelle en matière de santé est essentielle, et je suis convaincu que cela figurera parmi les principaux sujets de vos débats.

Le coût des soins de santé primaires constitue une question délicate et nous devons nous inspirer de la définition qui en est donnée, à savoir 'l'accessibilité universelle des soins essentiels de santé'. L'OMS coopère avec les Etats membres pour éliminer les différences de prise en charge selon les diverses régions et parmi les différents groupes de population et pour assurer ainsi une couverture universelle.

On peut se demander dans quelle mesure il est possible de garantir une couverture dans les pays en développement avec des ressources qui, même avec une politique idéale et la plus grande bonne volonté, seront nettement inférieures à celles qui sont actuellement dépensées par les pays développés. En clair, une affectation efficace des ressources et un effort continu de mobilisation de ressources nouvelles sont de la plus haute importance. Le moins que nous devions faire, c'est de surveiller les coûts et leur rapport avec les bienfaits qui en résultent.

Pour revenir à la dimension internationale de l'économie de la santé, les mesures actuellement prises dans l'ensemble du système des Nations unies en vue d'élaborer un nouvel ordre économique international sont tout à fait appropriées à atteindre l'objectif de la santé pour tous. En effet, l'objet des discussions techniques lors de l'Assemblée mondiale de la santé de 1980 sera 'la contribution de la santé au nouvel ordre économique international'. L'un des objectifs de ce nouvel ordre consiste à combler les inégalités économiques inacceptables entre les pays en développement et les pays riches. Tous les secteurs du développement ont un rôle à jouer dans ce processus. Un nouvel ordre de santé dans lequel les ressources sont équitablement distribuées doit faire partie du nouvel ordre social qui constitue l'objectif ultime du développement. Ainsi, l'OMS souligne la nécessité d'assurer des termes équitables de l'echange - justes prix, qualité fiable, etc. - pour les médicaments,

18

équipements, installations et technologies que les pays en développement doivent acquérir auprès des pays plus industrialisés. Le programme de politique et gestion pharmaceutiques de l'OMS ainsi que le programme d'action sur les médicaments essentiels en constituent des exemples.

L'Organisation attache une grande importance à la coopération avec les pays en développement pour accroître leur capacité de production locale de médicaments et d'équipements, en réduisant ainsi leur dépendance économique dans le domaine de la santé et en élargissant leur autoresponsabilité et leurs possibilités de choix.

Les objectifs fixés par les Etats membre de l'OMS sont ambitieux, et les professions et les sciences de la santé ont besoin de conseils économiques à divers niveaux. Je suis donc persuadé que vous pouvez nous aider. Par exemple, je pense que les Ministres de la Santé ont besoin d'aide pour établir le bienfondé des dépenses de santé en tant que contribution à l'amélioration de la productivité de la main-d'oeuvre et des performances économiques. Ces dépenses constituent ainsi un investissement payant et non seulement une ponction sur les ressources financières. Vous examinerez aussi sans aucun doute la formation et la recherche nécessaires pour accroître les possibilités d'obtenir des conseils avisés de nature économique, aux niveaux national et international.

Nous avons la chance de compter parmi nous, à cette réunion, des hommes de science médicale et des économistes de la santé particulièrement qualifiés pour procéder avec autorité à une analyse d'ensemble du domaine de l'économie et de la politique de la santé. Je suis convaincu que nous pouvons nous attendre à un échange de vues animé sur un sujet que nous considérons, à l'OMS, comme essentiel pour atteindre l'objectif de la santé pour tous en l'an deux mille.

FIRST SESSION

HEALTH PROBLEMS AND SERVICES: THE ECONOMIC CONTEXT

Moderator: A. Gellhorn

ECONOMICS AND HEALTH POLICY: AN OVERVIEW

B. Abel-Smith

In more and more countries, spending on health services is becoming a subject of major concern. Even in the richest countries, it is widely recognized that it is no longer economically acceptable to finance whatever level of expenditure on health services the health professions generate. In developing countries, it is increasingly recognized that the few dollars per head per year which are found to pay for organized health services have little impact on the health standards of the bulk of the population concerned. Unless there are major changes, health for all by the year 2000 is a dream without any serious prospect of being realized.

However much health professionals may regret it, the hard facts of the economics of health care are now moving to the centre of the stage. However desirable it may seem to keep politics out of health, economic pressures are increasingly forcing politicians to intervene.

The pattern of organizing and financing health services in the more developed countries has strongly influenced the developing countries and continues to do so long after the colonial era. Not least among these influences have been the training and role of the physician and his interpretation of the concept of clinical freedom. Another important influence has been the perception of the hospital as the centre point of health activity in the training of health professionals, if not also in the delivery of services. The longerterm responses of those wealthy countries that see themselves faced with a crisis in health costs may contain valuable lessons for the developing countries. Similarly, new intiatives taken by developing countries to try and secure health for all by radical rethinking, reorganization, and redeployment may well indicate new directions for richer countries grappling with their own crises, even though they are of a very different scale and character - the crises of affluence.

The Problems of the More Developed Countries

The problems facing the richer countries were the subject of no less than four different international conferences in 1979. In virtually all of these countries, health care costs have been rising substantially faster than national resources over the past thirty years. This trend could obviously not have continued indefinitely. But it did not cause great concern when national economies were growing rapidly, as they were in the 1960s. More health services were seen as part of the spoils of affluence - like more cars, more television sets, and more washing-up machines. This was true even where the bulk of health services were financed through the public sector - by taxes and social security contributions.

It has been the lower rate of economic growth following the world oil crisis, starting at the end of 1973, which has brought the problem into prominence. Where social spending has been allowed to continue its earlier rate of growth in the new economic context, public opinion has made its voice heard and the political process has responded. Health spending has been selected for particular attention because of its growing share of social-service spending. There is a point at which people want to keep their own money to spend in their own way. What may also be importance is that the bulk of money in health care goes on a small minority who are seriously ill. There may well be a limit on what the healthy are prepared to spend on the unhealthy, even though they know that they themselves are being given protection against the risk of ill health.

Already there are several countries where spending on health services is not far below 10% of the gross national product. This is the case in the Federal Republic of Germany, the Netherlands, Sweden, and the USA. If people are now working four or five weeks a year simply to pay for their health services, it is not surprising that they wish to be reassured that they are getting value for money - that what they are gaining could not be obtained at lower cost, or that they could not obtain more for the same cost. And the 'more' they are seeking is not in terms of health services but in terms of health - less premature death, less illness and disability, less pain and restricted activity, and more comfort, support, and care when disability cannot be further ameliorated.

One consequence of the reexamination of spending on health services has been to raise serious doubt whether the richer countries of the world have in fact gained anything like commensurate benefits for their vastly increased expenditure over the past few decades. There are four reasons for this doubt. The first three come from the crude evidence of mortality experience. And it should of course be recognized that mortality provides a far from comprehensive picture of the benefits of health care. First, mortality rates among children, young adults, and the middle-aged have continued to improve - but not at an enhanced rate, and the gains in expectation of life at age 65 have been far from dramatic. Insofar as the vast majority of effective drugs used today were first marketed in the last 40 years, and the high technology machinery of the modern hospital dates from the last 20 years, the improvements in mortality have been disappointing. Of course it is harder to cut mortality rates when they are low than when they are high. But an examination of the causes of mortality suggests that further preventive efforts may be more cost-effective than further investment in curative medicine.

What is crucially important for the developing countries to note is that the major improvements in mortality in Europe and North America occurred <u>before</u> the massive investment of the last few decades, and before the advent of what we now call high technology medicine. Historically, economic growth - or the social changes which have accompanied it - would seem to have done more for health than the interventions of modern curative medicine. And this is so despite the unhealthy life styles that have also come with greater affluence.

Secondly, the countries that appear to spend the most on health services do not necessarily have the best health. While the Netherlands and Sweden are high spenders and have low mortality rates, France, the Federal Republic of Germany, and the USA are also high spenders but in many respects have worse mortality rates than the low-spending United Kingdom.

Thirdly, the spread of health services, free or nearly free at time of use, to the vast majority of the population, has been accompanied by major extensions in other social programmes - cash benefits to support income, to share the costs of child-rearing, and to help the poor, programmes to help the lower income groups obtain better housing, the extension of education before and after compulsory schooling, and a whole range of social support programmes. Thirty years ago, it would have been predicted that all this massive social investment would inevitably lead to a narrowing of relative social class differences in mortality rates. But while rates have generally improved among all social classes, there does not seem to have been a narrowing of relative rates between social classes.

What is the explanation of this phenomenon ? Were social programmes not sufficiently concentrated on the poor ? In the case

ABEL-SMITH

of health services, was it a serious mistake to assume that the lowering of money barriers was all that was needed to secure that all social groups used health care to the extent that they should ? In the United Kingdom at least, we have clear evidence that the lower social classes use services substantially less than their health status would warrant.

Fourthly there is in many, but not all, affluent countries a distorted distribution of health resources, though not on the same scale as in developing countries. Sometimes it is the inner cities that are relatively underprovided and sometimes it is the more remote rural areas. In general, health resources tend to be most sparse where health needs are greatest.

The Response of the More Developed Countries

The immediate response of governments has been addressed to the pressing, if narrow, problem of containing rising costs. They have seized on such weapons as were immediately available. In countries that finance their health services out of government budgets, the health budgets have been tightened. In countries operating health insurance systems, what can be most readily compressed are hospital construction costs, hospital daily rates, and pharmaceutical costs. In both these two systems of financing, cost-sharing by the patient has tended to be increased, partly to raise revenue, but also as a price signal to the patient and via the patient to the doctor. But these are short-term measures that can do no more than put a temporary lid on costs and postpone the time when the upward trend will reassert itself. They do little to lower the heat below the boiling kettle on which the lid has been placed.

In a number of countries, however, more fundamental questions are being asked and some longer term measures are being considered or taken. To help work out options for the future, there is now a burgeoning of interest in health economics throughout Europe, North America, and Japan. The economist can assist by analysing the effect on costs of different policy options and attempting to identify why costs are increasing in particular sectors. Of special importance are the economic incentives offered to providers by different systems of payment, and the extent to which providers respond to them. Alternative payment systems could be devised that would have different underlying economic incentives and encourage providers to be cost-conscious and make a better use of existing resources.

ABEL-SMITH

One approach to the problem of cost containment is to restrict the supply both of hospital beds and of medical manpower, as it appears to be these elements of supply that create the major costs. Hospital beds which are provided tend to be used. Extra doctors generate more work - some of which may be 'unnecessary'. Hence the trend in Western Europe is to cut the output of medical schools following the vast expansion of the 1960s. Hence, in turn, the tendency to set lower targets of hospital beds per 1000 population in national health plans.

Questions are being asked about the whole pattern of organizing and financing health services. In countries where general practice has rapidly declined in the face of growing specialization, there is discussion of whether the rebirth of general practice is possible and, if so, whether it would provide as good care at lower cost. In several countries where there are specialists without access to hospital beds, there are moves to secure hospital privileges for them so that the same specialist can handle the whole of an episode of In several countries where hospital-based specialists have illness. no outpatient facilities, there are moves to provide them for the same reason. The incentives under fee-for-service payment systems are being reexamined. In the Federal Republic of Germany, for example, there are moves to pay the doctor relatively more for consultations and relatively less for pathology tests and X-ray examinations. In the USA, the response has been a bewildering series of regulating mechanisms (utilization review, professional standards review organizations, maximum allowance cost limits for drug puchasing, certificate of need approval for new health facilities and equipment, comprehensive technology assessment, etc.) and the encouragement of health maintenance organizations.

The most fundamental changes are being made in Italy. Hospitals, instead of being paid per day of care, are to be financed out of a local budget which will in turn form part of a regional budget. Ten years ago the majority of doctors operating in the community under health insurance were paid on a fee-for-service basis. Now they are all paid on a capitation basis. It was found that the prescribing rate for doctors paid under fee-for-service was much higher than for doctors paid by capitation. Indeed, the former prescribed 21 items per patient per year under the main insurance scheme. It is also of interest to note that prescription items per person per year are seven or less in Denmark, the Netherlands, and the United Kingdom,

27

where general practitioners are paid on a capitation basis (or some variant of it). This compares with a rate of 9 in Belgium, 10.5 in France, and 11 in the Federal Republic of Germany - all countries where doctors are paid on a fee-for-service basis under health insurance.

Prescribing is by no means the only area where there are wide variations in the use of services within and between countries. There is a massive field for research to identify and explain variations in the use of particular types of surgery, pathology, and X-ray, and in the use of the hospital for particular conditions the admission rate, the length of stay, and the real resource use per day of care. How far are variations really explicable in terms of health needs ?

Thus five questions are increasingly being asked. First, is some of what is now done unnecessary and, if it is, why is it done and how can the waste be prevented ? Secondly, are there current treatments and procedures which are ineffective ? (This is by no means unlikely in view of the finding by a recent commission in the USA that only 10-20% of treatments had been validated by the hard test of controlled trial.) Thirdly, how is it possible to ensure that new technology and new procedures will not be introduced in the future until there has been full and thorough evaluation of benefits and costs ? Fourthly, are there ways in which effective and acceptable care can be provided at lower cost, particularly by changing the place of care (e.g. outpatient surgery) or the mix of manpower (greater proportionate use of less highly qualified manpower) ? Finally, what new steps can be taken to prevent the need for health care arising in the first place ? How, for example, can life-styles be changed and what would it cost to change them ?

On top of all this, some countries are consciously establishing priorities for the development of their health services - both between types of health need and between sections of the population. This underlies plans to redistribute health spending geographically for example, from northern Italy to southern Italy, or from southeast England towards the north. In the longer run, this may lead to conscious searches for under-users of health care. It is of course easier to develop this approach within a health <u>service</u> than a health <u>insurance</u> system.
ABEL-SMITH

Health policy, as distinct from health service policy, is now clearly coming to the forefront of thinking in many of the highly industrialized countries. There is no longer a willingness to leave health insurance agencies to pay any bills generated in openended insurance simply because the premium cost is now seen as becoming intolerable. The developed countries undoubtedly have lessons to teach the developing countries from their experience. Some of the most valuable lessons may be negative rather than positive - 'Don't do it our way'.

The Problems of the Developing Countries

The critical difference that dominates health policy planning in developing countries is the sheer fact of poverty. This makes the waste of health resources intolerable, including the waste of doing well at high cost what could be done equally well at low cost. But even more important is the fact that poverty is itself a predominant cause of bad health. Poverty is the key vector - more important than any worm, microbe, or parasite. As has so often been said, poverty creates illness and illness creates poverty. The key to improving health is to break out of the cycle of malnutrition, disease, unhealthy environment, lack of education, and excessive fertility. It is a fact based on human experience that birth rates tend to fall when living standards rise and mortality rates fall.

Thus health improvement is a question of economic and social planning, not just of medical planning. In some cases political changes may be a prerequisite for health improvement- particularly where land tenure systems lie at the root of rural poverty. Health for all will not be achieved by the year 2000 by regimes whose power structure is built upon the provision of health for only a privileged few, or by regimes that cannot face up to the fundamental changes required to develop an equitable health policy. While planners can show the way, politicians can choose not to take it. That is their privilege.

Thus any plan for health services must be part of a wider health policy, and the latter must be part of a plan for integrated development. A health input is critical to any plan for economic development. So many economic plans that have been successful in increasing the growth of the national product have done nothing to meet the basic needs of the vast majority of the population. Plans for industrial development often help a small urban élite but leave the rural population no better off than before. Plans for agricultural expansion often help the large farmer at the expense of the majority of small farmers. An emphasis on cash crops can lower the nutritional intake of the rural poor. Critical for health policy are plans to improve nutritional intake and secure that the right balance of diet is consumed by all family members - not least by mothers and young children. Critical also are plans to secure that water is available in adequate quantity and that clean water is not polluted again before it is used. How many expensive developments have been frustrated by the lack of community cooperation caused by failure to ensure local participation and to give sufficient priority to health education of the right type ?

The failings of the health services of most developing countries have long been recognized. The following list does not of course apply to every country.

First, there is the relatively high expenditure on health services in urban areas, while few or no services are within reach of the majority of the population living in rural areas.

Secondly, there is a concentration of resources on hospitals, including teaching hospitals using high technology, rather than on primary health care.

Thirdly, these trends are reinforced by the introduction of physician-based social security schemes that provide services only for the wage- and salary-earning sections of the population. In some cases it would be economically impossible to extend such services to the whole population until the real national product had been multiplied by five or ten.

Fourth, there is the heavy cost of using such 'free' services as are available in terms of travel expenses and waiting-time.

Fifth, an imbalance is created by the provision of costly training, including specialist training, to doctors, who are unwilling to work in rural areas, while auxiliaries to work with them are relatively very few.

Sixth, there is the orientation of medical education towards the curricula of more developed countries rather than a curriculum designed to train doctors for their intended role in a particular developing country.

Seventh, there is a relative lack of funding for preventive medicine, including health education, compared to the funding for urban curative medicine.

Eighth, there is heavy expenditure on a vast range of imported specialist pharmaceuticals, some of which may even be purchased twice (once by the government and then again in the private sector after being purloined from government stores).

Ninth, services are hierarchically controlled, so that there is neither integration with other local development workers nor participation from the local community.

And, last but not least, the majority of the population who are denied effective access to science-based services incur heavy expenditure on herbal remedies and traditional practitioners, who receive neither training, support, nor supplies from the organized services.

Each of these features severely limits the lasting gains to health from expenditure on health services. In economic terms the essential problem is to maximize the health improvement that can be obtained from any given level of expenditure. The problem is the same as in the more developed countries. And, if the benefits obtained from existing levels of expenditure could be improved and shown to have improved, the health sector would be in a stronger position to negotiate for higher appropriations, in view of the proven contribution to the process of integrated development.

Towards Health for All

The health economist can help by providing a clearer quantified picture of the existing situation. What are the sources of funds and how are they being spent ? Existing health budgets in developing countries so often seem to be still designed to detect the misappropriation of funds rather than to serve as tools for health planning. They do not provide answers to the following critical questions. How much is spent on training different types of personnel and on constructing different types of building ? How much is being spent per head of urban population and per head of rural population ? How does expenditure vary between urban centres and between different regions and districts of the rural areas ? How much is spent on certain supplies - particularly pharmaceuticals ?

ABEL-SMITH

How is the budget divided between inpatient and ambulatory services, between curative services and different fields of preventive activity ? All this information the health economist can help to collect. Once collected, it can be related to the population reached. For example, what proportion of the population has effective access to services ? What proportion of children in each district is fully immunized ? What proportion of the population actually uses a health facility in the course of a year (rather than how many visits are paid) ?

As a tool for building up a health plan, the health economist can construct a whole series of costing units. What is the cost of training a doctor, a nurse, a medical assistant, and a medical auxiliary ? What is the annual cost of paying personnel once they are trained ? What is the cost per day of maintaining different types of hospital bed, or of a consultation, an immunization, or a health inspection (for a particular purpose) provided by different grades of personnel. What is the cost per kilometre (or mile) of different types or modes of transport ?

These costing units can be used to work out the cost of performing a list of priority tasks. This cost will, of course, depend on the level of training really needed to perform them. For example, no training at all may be needed to provide a regular distribution of antimalaria drugs for young children. How much training is needed to carry out an immunization procedure, or to teach mothers oral rehydration ? What would it cost to have each task performed by the lowest level of staff who could adequately perform it ? And what would it cost to provide full population coverage respecting the performance of that task ? In this way each potential health benefit can be compared with its cost, though the combination of tasks may of course bring economies.

Alternative staffing models for providing coverage of rural areas by health-trained workers can be constructed to set out the cost of different options and compare the extent to which the different models could provide effective access to services. If, for example, a new start could be made and the existing expenditure on health services divided equally among each 100 000 population, what staffing would be chosen ? Let us assume that 300 000 currency units are available per 100 000 population and that 100 000 units are needed for supplies, transport, and all other costs apart from staff costs. Some possible staffing options are set out below.

Grade	Training	Annual cost per staff member		Optional Numbers		
orade	cost			in post		
	(units)	(uni	ts)	A	B	<u>C</u>
University train-	100,000	00		1.0		0
ing for 5 years	100 000	20	000	10	6	2
Secondary school plus 2 years'						
training	3 000	6 (000	0	10	10
Primary school plus						
6 months' training	1 000	2 (000	0	10	50

Only option C or some variant of it offers the prospect of ready access to primary health services for the whole population of a rural area. If access is given the highest priority, then the limiting factors are the tasks in which the three grades of health worker are to be trained; the tasks chosen must be such that the workers will have time to perform them for the whole population they are expected to serve. These tasks can then determine the training programme, and it will no longer be left to traditional training patterns to determine how many people can benefit from the performance of any task.

Of course no country is ever in a position to make a wholly new start. Even after radical political change, there is still an inheritance of staff trained in particular types of skill, and of buildings designed for particular purposes sited at particular places. But once you know where you want to go, a step by step progression can be made in the desired direction. And the success of each step can be evaluated soon after it has been taken.

The only services that can hope to reach the whole population are low-cost services, using front line staff with limited training and low technology. Such services can be effective if the tasks to be performed are carefully chosen, the staff properly trained and supervised, and the necessary supplies provided.

The impact of paid staff can be widely extended by the participation of the local community. The cheapest way of providing any service is for people to provide it for themselves wherever this is possible. The basic health knowledge passed on within the family

ABEL-SMITH

is an invaluable asset in more developed countries. Building up this knowledge in a developing country that lacks it is potentially one of the most beneficial health investments.

The search for the most cost-effective ways of improving health inevitably challenges traditional patterns of thinking, as well as the roles and functions of health personnel as they have evolved in the more developed countries. But what is mainly entailed is a further step in the process delegating tasks - a process that is steadily gaining ground in the modern hospital. Tasks that, when new, were performed only by physicians are now routinely performed by auxiliaries with much less training. The challenge for the developing countries is to see how far they can take the process, while still providing safe and effective health care. In this way, new and simpler technologies may well be developed for the delivery of services.

Conclusion

The same fundamental questions are being asked in the more affluent countries as in the developing countries. What is the most cost-effective way of improving health ? How can the health effort be redirected to provide better value for money ? Insofar as this involves changing behaviour, how can the necessary changes be best secured ? And, in the case of services, what should be the priorities, how can they be equitably distributed in terms of health need, and how can they be made to secure the maximum health improvements for the money available ?

The physician tends to see his task as the provision of the best service he can for the individual patient, irrespective of cost. No longer can cost considerations be ignored. When resources are limited, the provision of services to one patient at greater cost than is strictly necessary for good and effective care means that resources will not be available for the care of other patients, or to improve health by other means - many of which may be more costeffective. Lack of cost-consciousness on the part of one physician in exercising his clinical freedom can severely limit the clinical freedom of another physician, simply because the resources are not available for him to exercise it. It is for this reason that health professionals cannot escape a collective responsibility for the way in which health resources are used. Health economists can assist them in exercising this responsibility and work with them to identify the more effective ways of improving the health of the different nations of the world.

Résumé:

Le sentiment est maintenant très repandu dans les pays developpés que les dépenses de santé se sont accrues trop rapidement et sans entraîner d'améliorations proportionnées de l'état de santé, alors que dans les pays en développement, l'objectif de 'la santé pour tous ici l'an 2000' ne sera atteint qui si des changements importants surviennent dans la nature même et dans la distribution des services de santé.

Divers efforts de contrôle des coûts ont été déployés, à savoir contrôle budgétaire, révision des prix et des tarifs médicaux, accroissement des tickets modérateurs, réglementation de l'offre des services, et dans quelques pays, changements fondamentaux dans l'organisation et le financement des services de santé. Les économistes de la santé ont un rôle primordial à jouer pour préciser ces problèmes et résoudre des questions fondamentales telles que l'importance du gaspillage et des services inefficaces, les coûts et les avantages des techniques nouvelles, le choix de méthodes efficaces de production et d'options stratégiques, notamment le rôle potentiel de la prévention.

Dans les pays en développement, la pauvreté est à la fois une cause fondamentale des problèmes sanitaires et un sérieux obstacle à l'implantation des services de santé. Il est évident que la santé est une question de planification économique et sociale et pas seulement de planification de services de santé. Le manque d'eau potable et une nutrition inadéquate sont des problèmes graves, mais les programmes agricoles peuvent eux aussi avoir des effect inégaux et indésirables pour les groupes de population les plus vulnérables s'ils ne sont pas conçus et contrôlés avec soin. Les problèmes majeurs, qui limitent sérieusement les bien-faits des dépenses des services de santé sont : le déséquilibre flagrant vers des services curatifs hospitaliers, urbains, utilisant une technologie avancée et au détriment de services ruraux de soins primaires, préventifs et simples; par un système d'assurance maladie basé sur la sécurité sociale qui privilégie largement les employés; l'accès difficile à des installations éloignées et surchargées; l'insuffisance de personnel auxiliaire et paramédical approprié par rapport à un personnel médical coûteux et trop spécialisé; une organisation et une gestion inadéquates et un manque de participation au niveau local; des dépenses considérables pour l'importation de médicaments destinés à des services médicaux modernes, et, si ces derniers sont inexistants ou inaccessibles, en remèdes et en praticiens traditionnels.

Ici encore, les économistes pourraient jouer un rôle important : en déterminant les sources et la destination des moyens financiers; et en mettant en place des systèmes de comptabilité analytique et d'évaluation de coûts unitaires orientés vers les décisions, qui peuvent être utilisés pour une meilleure affectation des ressources et un meilleur choix de stratégies pour la production et la prestation de services de santé. L'objectif fondamental dans les deux cas est de tirer le maximum d'avantages des dépenses consenties et, pour y parvenir, les professionnels de la santé et les économistes doivent travailler ensemble.

G.L. Monekosso

Economics, Health Care, and Health Status

Complete physical, mental, and social well-being for all persons in all countries everywhere is an ideal for which the international community must strive in the future, as it has done in the past. For citizens of developing countries its achievement is almost as remote as getting a chance to go to the moon. Bearing in mind the Homo sapiens hierarchy of natural systems and the nature of feedback systems, 1 one can describe the situation of an individual in a slowly developing country as follows: his culture is in a state of flux, having been severely dislocated by the well-known historical events of the last few centuries; his country has yet to be firmly constituted as a nation and participate in the exchange of policies, symbols, goods, and resources other than in an essentially negative and disadvantageous manner; and his traditional family structure is severely shaken by external forces. What he can hope for at best is normally functioning body systems. And these are still frequently challenged by unfavourable environmental forces.

There are four major determinants of health ² - heredity (the genetic constitution of the individual); <u>environment</u> (favourable and unfavourable features of his habitat and surroundings); <u>behaviour</u> (the way he lives, the things he does, e.g., exercise, smoking, type of diet, etc.); and health care. The last of these determinants means the use of available technology, indigenous or imported, but suitably adapted to local circumstances, within an organized health system, by suitably trained health workers with a view to ameliorating the health status of individuals, families and communities. This paper will concentrate on economics and health care in developing countries. It is understood that the goals of any comprehensive health care system could include the minimization of health risks related to hereditary, behavioural, and environment-al factors.

Biosphere - <u>Homo sapiens</u> - cultures - nations - communities and organizations - families - persons (social-psychic-somatic) - body systems (organs-tissues-cells) - molecules - atoms - subatomic particles.

² Blum 1976.

MONEKO S SO

It is now generally accepted (Declaration of Alma-Ata) that the achievement of health for all by the year 2000 requires a multisectoral approach ⁽⁹⁾. Health services, viewed in the narrow sense, will not lead to this goal, and health service expenditure must therefore be seen in proper perspective - even by health workers. One tropical developing country recently spent 31.5% of its national budget on agriculture, rural development, and water supplies, 16.8% on food subsidies, 4.3% on population control, and 4.3% on health services (8). Workers in the health sector might grumble at this distribution, but it is not unlikely that such a budget might well have been the best way of promoting the health of the greatest number of the citizens of that country. The contribution of agricultural activities will lead to greater availability of food (with a greater possibility of improving nutritional status and greater earning power for the farmer who can then buy services (including health care) that will contribute to a state of physical. mental, and social well-being. The fact that these and similar activities in other sectors (public works, education, social welfare, etc.) are excluded from the calculations of health economists does not imply that their important contribution to health is not appreciated. What I wish to do here is to approach the problem coolly, avoiding the heat and passion so often generated in discussions on health expenditure, and emphasize the need for bringing individuals, families, and communities to plan health expenditure and thus avoid 'catastrophic' spending in emergencies. Developing countries, whose public health infrastructure is characterized by serious inadequacies (shortages of doctors and lack of auxiliary medical staff, lack of equipment and facilities) due to insufficiency of financial resources, cannot afford badly planned or unplanned health expenditure.

The proportion of the gross national product devoted to health services, according to a WHO international study in 1967 (1) varied from 2.5% to 6.3% and it was noted that countries with relatively high standards of living spent higher proportions of their resources on health services than those with relatively low standards of living. Consequently, the developing countries, where health standards are poorer, were spending rather less in relation to resources, an anomaly that can only be justified by greater efforts in other sectors with a potential for health development. This anomalous situation has been observed at family level - in one developing country (3) the wealthier people spent a higher percentage of their household expenditure on health, in spite of the probability that their health status was better than that of poorer families. It would appear therefore that health expenditure is not necessarily related to health status (if this is measured by normally functioning organ systems alone)

but to felt needs that depend upon cultural and social values. How much one spends on health is determined largely by who the health care provider is. In one tropical developing country (10) it was shown that, whereas people in the lowest income group (whether urban or rural) rarely consulted private physicians and were habitually treated by traditional practitioners, the reverse situation obtained in the highest income group living in the capital city. It is a matter of cutting the coat according to the available cloth.

There is a need to determine for each country, and possibly for different areas within it, the most effective health care package at a cost people can afford, and within their specific sociocultural context. Studies to this end are of universal interest, but are particularly crucial for developing countries that have no resources to waste. Since such a package would change with changing needs (in the course of development), research in health economics must be incorporated into, or coodinated with, health services research. In this way national and local health systems will 'learn' while operating and, it is hoped, adjust to research findings. One thing is clear from recent studies in developing countries - people are not only willing to pay directly to safeguard their health, but in many countries 'direct payment by consumers' or 'household health expenditure' is considerably more than the total budget of the Ministry of Health. For health economists and health planners this is a challenge that must be faced - the tapping of an enormous unplanned resource.

Health Expenditure Patterns

Health care delivery depends upon suitably trained manpower, appropriate health care facilities, and adequate financial resources. All governments in developing countries accept full responsibility for the health of their citizens and in many countries (probably the majority) health care is accepted as a basic human right. The majority of governments, if not all, share the cost of health care with their citizens and with national, local, and foreign agencies. There are probably as many patterns of health expenditure as there are countries (and there are sometimes dramatic changes in the same country following major political upheavals), but the patterns of health expenditure would appear to fit into a spectrum, reflecting sociopolitical philosophies and sociocultural attitudes about health. At one extreme there are governments which accept that health is a fundamental human right and consider it the duty of the government to provide all the health care their citizens require. The other extreme is represented by governments which do not deny that health

is a fundamental human right but which nevertheless delegate financial responsibility to various official and unofficial agencies and private initiatives. In addition, to a varying degree, local communities are able, using locally collected revenue and/or other resources, to organize local health services; and this does not necessarily correlate with the position of the country relative to one or other of the extremes described above. Finally, there are cultural attitudes - individualism, money consciousness, good neighbourliness, etc. - that modify the officially prevailing health expenditure patterns.

Type 1 The central model, half way between the two extreme types, dominates much of Black Africa, but is not limited to that geographical area. The government is fully committed through the Ministry of Health - which has a dominant role - to provide health services for the entire population. But because of insufficient funds, there is selective expenditure, health care being free for certain vulnerable or economically important groups. About 50% or more of health expenditure comes from governmental sources. In one middle African country in 1976/77 (4) government expenditure was 62%, individual or household expenditure 34%, and expenditure by private companies 4%; 448 out of 535 million local francs came from the Ministry of Health, 60 million from the Education Ministry, 12 million from the Defence Ministry, and 15 million from the Ministry of Foreign Affairs (money spent abroad). The Health Ministry's budget was about 7% of the national budget, about half of which (53%) was spent on the salaries of health personnel, etc. and 30% on the purchase of drugs and supplies. Only 4.8% was available for the maintenance and running costs of health care institutions. Among miscellaneous expenditure was money for sending a small number of patients abroad (to European countries) for tertiary care. Fees were charged in hospitals and other health care institutions, but treatment was free for (a) 'civil servants' from whose salaries money was deducted 'for health care'; (b) a specially privileged group - health care personnel: (c) schoolchildren and students: (d) members of the armed forces and the youth corps; (e) the families of all the above groups; (f) prisoners and other detained persons, and (g) people certified as paupers.

In another African country ⁽⁸⁾ the sources of finance were identified as follows:

	(/0/
Government (central and local)	45.6
Employers	3.8
Local missions and charity	1.3
Foreign aid	33.2
Direct payment by recipients	16.0

Health service costs accounted for 5.3% of the gross national product (GNP). There is a serious effort to extend services to rural areas as shown by the rural/urban distribution of health expenditure:

(7)

(7)

	$\frac{\text{Urban}}{(2)}$	$\frac{\text{Rural}}{(\%)}$
Government (central and local)	30.0	70.0
Missions	1.0	99.0
Employers	80.4	19.6
Charitable organizations	33.0	67.0
Direct payments by recipients	36.5	63.4

It must be admitted that this is probably an exception to the general rule; in most countries high expenditure on the urban minority of the population is more typical. The major items of central government expenditure for 1976 in the country under review were as follows:

Payments to medical and other health	
personnel	36.4
Transport and communications	8.6
Medical supplies and equipment	14.6
Food and food supplements	29.4
Other goods and services	11.0

Health expenditure problems in this type of country (generally among the least developed) include the following:

- A relatively high proportion of the recurrent budget is spent on salaries, not because the salaries are high (they are, in fact, very low by world standards) but because the funds are small and, in some cases, large numbers of untrained and unproductive individuals are 'carried' in the budget.

- There is a consequent shortage of running costs; equipment is lacking or defective, simple health care materials (even cotton wool) may be in short supply, and health personnel are frustrated.

- Foreign aid plays an important role, but in general it concerns only a small part of the operational services; it plays a vital role in medical education, medical research, and rural health care, but may distort health programmes by emphasizing sophisticated techniques. The figures for foreign assistance (multilateral or bilateral) are high because of the high cost of paying foreign personnel and would be considerably lower if adjusted to local salary patterns.

- Relatively large sums are spent on sending government officials abroad for treatment; normally this should be only for tertiary care unavailable in the country but the privilege is frequently abused.

- In spite of government efforts to ensure equitable access to health care, the poorer people are unable to pay relatively high costs of care, e.g., the minimum daily charge for a hospital bed in one country was equivalent to one week's earnings by a worker living on the official minimum wage. For this category, primary care administered cheaply by a traditional health worker is the only solution.

- Drugs represent a major item of expenditure, not only for the government but also for individuals, especially if they are subject to import duty. In many countries drugs are duty-free, but in spite of this the costs remain prohibitive.

<u>Type 2</u> This type of health expenditure pattern is characterized by relatively low direct governmental financing of health services and very high private participation. One country defined the goal as the narrowing of the gap between the potentialities of modern science and the availability of health services, by facilitating access to adequate medical care for all citizens, regardless of their economic and social status. The gap left by low public intervention is covered by an organized private sector - social security financing (8). The proportions are:

~	
6	

Public expenditure	13.4
- central government	6.2
- local government	7.2

	(%)
Private expenditure	86.6
- personal consumption	84.0
- industry	1.6
- others	1.0

The importance of the private sector is also brought out by the fact that out of a total of 40,719 beds (equivalent to 852 people per inpatient bed), private beds in hospitals and clinics numbered 11,434 and 18,250 respectively (29,714 private beds, compared with 22,439 beds in official national, provincial, or municipal hospitals). In this system the official Ministry of Health is a poor relation of the social security system; indeed, the above-mentioned governmental health expenditure also takes in the Ministries of Home Affairs and Education and the Economic Planning Board.

This pattern of expenditure is observed in a number of rapidly developing countries with an open market economy - health care is a part of the market and shares in its vicissitudes. Relatively poor countries have been reported as planning for the immediate future in this way. The principal obstacles to applying such a policy would be the following:

- A relatively low proportion of the population are salaried, and therefore compulsory health insurance would benefit only a small minority, often less than 5%. The others, in private business or agriculture, have irregular and unreliable access to cash and cannot easily participate in health insurance, voluntary or otherwise.

- Those belonging to this 'unserved' majority actually contribute to the GNP in many indirect ways, and it would not be equitable to discriminate against them, even temporarily. A mitigating factor in African countries is that the urban/rural divide is not as sharp as foreign economists imagine - because of the extended family system and the high level of neighbourliness.

- In countries that must develop rapidly or perish, it would appear illogical to leave the provision of health care to any institution or organization (even if it means well and is highly charitable) that does not have the political responsibility or obligation to harness all available resources, especially manpower. And we are learning more and more about the importance of a healthy population in the development effort.

- Social security systems almost invariably concentrate on curative services, to the detriment of disease prevention and active health promotion. They would be viable in countries where the GNP is high and where, in spite of high expenditure on curative services, there would be sufficient funds available for the general public health, and especially for crucial health development activities in other sectors, e.g., agriculture, water supplies, etc.

Very little published information is available on the Type 3 financing of health services in countries where health is a right and the state is obliged, and strong enough, to provide for all curative, preventive, and promotional health care. The economy is planned in considerable detail, and the health sector is taken fully into consideration. . Government financing is preponderant - over 70% of the total, mostly or entirely provided by the central government. Local authorities are heavily dependent on the central purse. Charitable organizations usually play a minor role, but foreign bilateral and multilateral assistance may be prominent. Private health care (e.g., private clinics) are either not permitted or are tolerated only as a temporary measure, but the consumers are frequently called upon to pay relatively small amounts for drugs and medical supplies. Private companies normally become nationalized so that their productive effort is immediately available for development purposes. This pattern of health care financing appears to work extremely well in a number of relatively advanced developing countries and it is, of course, well established in a number of the world's most developed countries. The principal problems that confront economically feeble developing countries opting for this approach include the following:

- Most developing countries do not have reliable data upon which scientific planning can be based. This is particularly true in the health sector. Health expenditure would be based upon inspired guesswork. A government that accepted full financial liability in these circumstances would not know what it was really committing itself to.

- Countries wishing to follow the very attractice concept of health care for all at public expense often forget that developed countries carrying out this policy have well-organized health insurance schemes, some of which preceded the adoption of a statecentred economic planning process. It is the total mobilization of human and natural resources that makes such systems possible. And this mobilization involves a degree of social discipline which the population must be willing to accept.

- Active community participation is indispensable if health services are to be fully effective. Even when funds are centrally available and health care is offered free to the population, consumer satisfaction may not be achieved. Health personnel, paid by the State, often see themselves as owing no obligations or respect to the individual's beliefs, preferences, or cultural practices. A special effort would be required to ensure that the health services do not merely guarantee normally functioning organic systems (physical health) but mentional and social wellbeing also.

- Attempts to give high priority to the health services (on the ground that health services are a right) may result in an imbalance of government spending with detrimental effects on health as such. The right to health should not be confused with the highly desirable right to health services.

The Challenge of Community Participation in the Financing of Health Services

One of the striking features of the financing of health services in developing countries is the fact that families spend considerable sums of their own money in promoting health and seeking curative treatment. This is true of both urban and rural areas. As well as cash expenditure, there is also often payment in kind to traditional healers. In one country (7), of total expenditure on health and health-related activities, private household expenditure was reliably estimated to account for 65.5% and government expenditure for 32.9% (Ministry of Health, 22.9%; other ministries and agencies, 10.0%). The contributions of voluntary agencies (0.3%), private industry (0.4%), foreign aid (0.9%) were very small indeed. How did people spend their money ? The figures presented were:

	(%)
Private doctors	44.9
Government hospitals	24.0
Drug sellers	20.0
Traditional healers	7.0
Health centres	2.3
Others	0.2

One is struck by the priority given to curative medicine and in particular to payments for doctors, hospital care, and drugs (88.9%). Much of this expenditure is 'partly the unpremeditated

outcome of countless individual decisions made by providers and recipients of services' ⁽⁵⁾. It is interesting to compare this with planned expenditure on health services by the Ministry of Health. The items are again listed in order of importance financial, and possibly programmatic:

(7)

	(/0)
Personal health services	67.0
Communicable disease control	14.57
Health planning and administration	7.32
Environmental health services	6.15
Health personnel training	3.62
Laboratories and research	1.12
Health education	0.22

This list confirms the importance of personal health services (doctors, hospitals, and drugs, as well as certain health promotion and rehabilitation activities). Both planned and unplanned expenditure agree on the same priorities. The challenge which health planners, managers, and health care providers must face, and which calls for a dialogue with the recipients of health care and their political representatives, is the need for pooling the resources in the interest of better coverage, greater effectiveness, and increased efficiency on the part of the health services. Unplanned household expenditure on health emergencies will never lead to full coverage, is unlikely to be effective as a system, and, financially, rarely gives full satisfaction to both client and physician/health care provider.

The primary health care approach is now generally accepted as the most likely path to lead to 'health for all by the year 2000'. There is an urgent need to work out the financial implications in all countries accepting commitment to this goal. In streamlining the national health service systems, it has been suggested that three fundamental levels of health care be taken into consideration (6):

a) Community health-related activities, organized by the people for the people, coordinated on their behalf by health committees (or health subcommittees of community development committees), executed with the help of community health workers, often operating from village health posts, and integrated or coordinated with other front-line 'grassroots' community development activities.

MONE KOS SO

b) Local health services including a district (community or local) hospital headed by a district medical officer, and a network of satellite health centres and dispensaries/primary health care units, staffed by teams of qualified and auxiliary health workers, operating in an integrated manner to ensure comprehensive health care for the local population. The local health service system receives directives for public health action from, and refers patients to, higher levels of the hierarchy. Its primary care activities support the community health-related activities.

c) National, provincial, and regional health services whose specialized secondary and tertiary care activities (clinical, laboratory, epidemiological) are organized in well-staffed and equipped hospitals, public health units, and medical research centres. These constitute the apex of the national health service system.

Few countries striving for global socioeconomic development can afford to finance health services with resources that might be directed more profitably to health development and improvement of the quality of life. Governments, their external partners (bilateral, multilateral, and other agencies) and internal partners (the beneficiaries of health services) should reexamine current activities to see where the greatest results can be achieved with the smallest effort, in terms of coverage, effectiveness, and efficiency and in the best interests of <u>equity</u> and <u>development</u> <u>strategy</u>. One approach which might be tried or reemphasized is the following:

- To encourage, at grassroots, extensive health-related activities by the people for the people, as self-help efforts. This primary health care approach should require relatively little financial support from outside sources. The people would be free to organize for themselves as best they could, with appropriate encouragement from the national health authorities, such undertakings as village maternity centres. village pharmacies, village health posts, village cleanliness campaigns, village water supplies, etc. These efforts should not be tampered with by external agencies, whose interventions are usually sporadic, discontinuous or, at best, continued for a limited period of time. National health authorities, as well as local government authorities, should stimulate, advise, and provide appropriate technical support. Major international organizations can help governments to provide such support.

- To strengthen local health services so that they can provide essential curative, preventive, promotional, and rehabilitation services for the population of the district, constituting an effective referral system for grassroots health-related activities. Otherwise, many existing local (district) health services might not be capable of coping with the health care problems that the primary health approach is certain to unravel. It is suggested that these essential services (the precise content can be defined by each country) be available free or practically free for residents of the geographical or administrative area covered by the district or local health service. It should not be difficult, in newly independent countries, to design a local health service system of the type described within the financial possibilities of the health ministry. Charitable organizations and other external sources of aid (bilateral and international) should intervene vigorously at this local level, especially in the financing of management, training, and research projects.

- To develop tertiary care cautiously, and possibly slow down expenditure in this sector, if it already consumes a large part of recurrent expenditure. Redeployment of staff to strengthen the local level may be considered. Charges should be made for curative services at provincial and national hospitals, especially the latter. But reduced charges should be considered for bona fide patients referred from the local health services; this would be equitable since they would probably have to bear other, hidden costs (e.g., travel to the provincial hospital and loss of earnings). It is also at this level that compulsory health insurance schemes for salaried workers would be appropriate. If local health services are free, the increased access to health care that social security/health insurance schemes provide for salaried workers in urban areas would be less inequitable. International health agencies should probably not intervene at this tertiary care level, except for the purpose of 'priming the pumps', e.g., in connection with health sciences education, health services research, and health systems management.

The above reflections represent one possible approach to the financing of health services. The large sums that people spend in health emergencies would be channelled to other purposes. It would be interesting to see if people, relieved of 'anxiety spending' by excellent local health services, would participate more fully in community (grassroots) health-related activities and contribute when

the need arises (and this would not be often) to tertiary care. There are obviously other possible solutions and approaches; the above suggestions, are offered merely to call attention to the need for administrative ingenuity and research in order to resolve the dilemma of quality, equity, and cost of health care delivery in developing countries.

References

- Abel-Smith, B. <u>An international study of health expenditure</u>. Geneva, World Health Organization, 1967 (Public Health Papers, No. 32).
- (2) Blum, H.L. <u>Expanding health care horizons</u>. Oakland, Third Party Associates Inc., 1976.
- (3) Chong Kee Park. <u>Financing health care services in Korea</u>. Seoul, Korea Development Institute/United States Agency for International Development, 1977.
- (4) Laurent, A. <u>Le financement des services de santé au Rwanda</u>. Genève, Organisation mondiale de la Santé/Institut Sandoz, 1978.
- (5) Mach, E.P. Méd. soc. prév., 24: 132-136 (1979).
- (6) Monekosso, G.L. et al. <u>The primary health care cube</u> (in preparation).
- (7) Roemer, M. <u>The health care system of Thailand</u>. Bangkok, World Health Organization, 1978.
- (8) WHO Technical Report Series, No. 625, 1978 (Financing of Health Services. Report of a Study Group).
- (9) World Health Organization/United Nations Children's Fund. Primary health care. Report of the International Conference on Primary Health Care, Alma-Ata, USSR. Geneva, 1978
- (10) Zschock, D. et al. <u>Health sector financing in Latin America</u>. Washington, DC, Department of Health, Education, and Welfare, 1976.

Résumé:

Pour la plupart des pays en développement, la mise en oeuvre de la définition de la santé de l'OMS est un objectif très lointain vers lequel ils continuent néanmoins de tendre comme tous les pays. Les quatre principaux facteurs déterminants de la santé sont l'hérédité génétique, l'environnement, le comportement et les soins de santé, et il est évident que ce dernier facteur à lui seul ne suffira pas à atteindre l'objectif de 'la santé pour tous d'ici l'an 2000'. Les pays en développement dépensent, à juste titre, beaucoup moins pour les services de santé que pour le développement de l'agriculture, qui contribue simultanément à l'amélioration de la nutrition et aux capacités de financement des services de santé. Alors qu'il semble que plus les pays (et les individus) s'enrichissent, plus leurs dépenses en matière de santé augmentent, le besoin essentiel reste le même à tous les niveaux de dépense: l'adoption d'une approche intégrée et planifiée propre à assurer la mise au point d'un 'module' de services le plus efficace possible au coût le plus bas.

Les soins de santé sont désormais acceptés comme un droit dans la plupart, sinon dans tous les pays, mais les modalités structurelles et financières varient considérablement d'un extrême à l'autre: d'une part les gouvernements à qui il incombe d'assurer tous, ou presque tous les soins de santé requis par leurs citoyens, et d'autre part ceux qui délèguent la responsabilité du financement et de l'organisation de ces soins à diverses institutions publiques et privées. Le modèle central, à mi-chemin entre les deux extrêmes, prédomine dans une grande partie de l'Afrique noire mais se trouve également ailleurs. Le gouvernement s'est engagé à fournir des services de santé à la population mais, par suite de l'insuffisance des ressources, les soins gratuits tendent à se concentrer sur certains groupes vulnérables ou économiquement importants et des contributions substantielles proviennent des dépenses individuelles des ménages et d'autres sources privées. Normalement, un pourcentage élévé du budget restreint est inévitablement affecté aux salaires (qui sont pourtant relativement bas) et aux médicaments, les fonds indispensables aux dépenses d'exploitation sont limités, l'équipement inadéquat et le matériel rare. L'aide étrangère est importante, mais peut faire pencher les services en faveur de techniques et de ressources trop sophistiquées. L'égalité d'accession aux services de santé peut être sérieursement affectée par des frais médicaux qui, même réduits au minimum excèdent souvent la capacité financière de beaucoup de personnes.

Un autre système de financement des services de santé, basé sur la sécurité sociale et d'autres formes d'assurance publique et privée, auquel le gouvernement participe moins directement, est répandu dans les pays à développement rapide possédant une économie de marché libre. Ce type de système convient toutefois mal aux pays moins riches qui ont un faible niveau d'emplois rémunérés; il est moins soumis au contrôle direct du gouvernement et tend à se concentrer sur des services de soins plutôt que sur la prévention.

Dans un certain nombre de pays en développement relativement avancés, l'Etat a réussi à mettre en place un ensemble complet de services de santé à planification centrale et dans d'autres pays développés ces services sont bien établis. Toutefois, ce modèle est extrêmement difficile, sinon impossible, pour les pays les plus pauvres, car les données nécessaires à une telle planification font défaut, les ressources propres à assurer une couverture complète de ce type ne sont pas disponibles, et la discipline sociale ainsi que le développement des institutions sont insuffisants. La centralisation trop poussée et l'uniformité pourraient également se heurter aux croyances culturelles et aux préférences individuelles, rendant difficile une participation efficace de la communauté.

L'une des singularités du financement des services de santé dans les pays en développement est le rôle considérable des dépenses privées des ménages. Dans un pays, celles-ci ont été estimées à deux tiers de toutes les dépenses de santé et connexes. Oue les schémas de dépenses soient déterminés par la somme de plusiers décisions privées ou ministérielles, il est intéressant de constater que ce sont les dépenses de médecine curative qui dominent. Les systèmes planifiés, tout comme les systèmes non planifiés, s'accordent sur les mêmes priorités générales. Le défi, pour tous ceux qui participent à la fourniture de services de santé, c'est l'amélioration de la couverture, de l'efficience et de l'efficacité. La rationalisation des services de santé nationaux dans le but d'assurer la santé pour tous d'ici l'an 2000 compte parmi les objectifs du développement. Cela implique des activités de développement de la communauté rurale, le développement d'une pyramide adéquate de services de santé locaux, depuis les unités de soins de santé primaires en passant par les centres sanitaires jusqu'aux hôpitaux locaux, et, à un deuxième niveau, la fourniture de services tertiaires spécialisés à l'échelon régional, provincial et national. Le développement des deux premiers échelons peut représenter une contribution énorme à l'amélioration de la santé dans les pays en développement et devrait être soutenu et encouragé par les gouvernements nationaux et les organisations internationales.

ECONOMICS AND HEALTH: DEVELOPED COUNTRIES

A. Griffiths

Introduction and Basic Propositions

Many doctors and other health service staff encounter economics in the course of investigations into the costs of various things, and it is perhaps understandable that they equate economics with costing, which is rather like equating medicine with laboratory tests. A rather more accurate definition might be that economics is the study of production, distribution, exchange, and consumption as processes in the use of scarce resources for limitless (and therefore competing) ends contributing to human welfare. One of the fundamental objectives of such study is to maximize the improvements in welfare from the scarce resources used.

However, economists have traditionally worked in those sectors governed by the laws of the market, and in crucial areas of the health sector these rules do not apply, particularly in developed countries. Unlike other sectors, where supply and demand are relatively independent forces mediated by price, demand for health services is largely determined by health service producers simultaneously acting as professional agents deciding the patient's requirements on his behalf, since he is not equipped to so for himself. Secondly, in all developed countries, a very high proportion of the cost of such decisions to use health services is covered by health service and health insurance systems, and the patient is faced with low or zero prices at the point of use. Thirdly, most health services are non-profit-making. Fourthly, their final output is complex and hard to measure.

Economists have therefore only begun to work systematically in the health sector in the last two decades, with an upsurge in interest provoked by the rapid escalation in health care costs over the last five to ten years. Though a wide range of issues have been tackled, analysis of the basic appropriateness of our health services to our health problems is remarkably rare, partly because economists have felt incompetent to examine the question, and partly because they have taken it for granted that the health professions, in the absence of the usual market mechanisms, are providing the services we most need and know how best to produce them.

This paper challenges these fundamental assumptions and presents three basic propositions.

GRIFFITHS

- 1. Health is determined much more by factors related to socioeconomic development, notably nutrition, hygiene, housing and behaviour, than by the intervention of modern medicine, and we are unlikely to improve our health as long as our health service policies continue to contradict or ignore this. In short, it is proposed that our health services are to a considerable extent misdirected.
- A large proportion of widely used medical procedures are of unproven effectiveness, and of those that are proven, many are not the most <u>cost-effective</u>, i.e. cheaper procedures and strategies would be equally or more effective.
- 3. The levels and mixes of health service inputs used to produce particular health services vary widely and are often neither technically justifiable nor cost-efficient, i.e., other levels and mixes of inputs would produce the same quantity and quality of service outputs more cheaply.

Misdirection of Health Services

The proposition that health services in developed countries are substantially misdirected is impossible to demonstrate individually, for each of the 60 or more developed countries, within the time and space available here. I have therefore chosen Britain which I know best, as an example. It has the advantage that it led the industrial revolution, typifying the kind of socioeconomic changes that produced the developed countries as we know them. It entered the main phase of industrial development with the introduction of the steam engine in 1830. Fortunately it also introduced birth and death registration from 1838, which produced reasonably reliable data from 1841 onward. It is extremely instructive to examine the century-and-a-half of experience since then.

In 1841, the standardized mortality rate per 1000 for England and Wales (standardized to 1901 population) was around 23 for males and 21 for females and had been falling since 1700. Indeed, the population tripled between 1700 and 1841. After 1841 the mortality rate fell again from the 1860s to 1901, and then fell steeply in the first two decades of the twentieth century. This fall slowed down considerably in the depression of the late 1920s and 1930s, accelerated downwards again in the post-war years, and flattened off appreciably from the 1960s onwards to under 7 for males and under 5 for females in the early 1970s. Overall, 35% of the fall occurred from 1841 to 1901, and 65% from 1901 to 1971.

Declining death rates for infectious diseases caused ninetenths of this reduction in mortality for the half century up to 1901, and almost three-quarters of the decline from 1901 to 1971. Specifically, of the decline in mortality for the whole period, two-fifths was from airborne diseases (notably respiratory tuberculosis, bronchitis, pneumonia, influenza, scarlet fever, diphtheria, whooping cough, and measles); a fifth was from waterborne diseases, (cholera, diarrhoea and dysentery, typhoid and and typhus, and non-respiratory tuberculosis); and rather more than a tenth was from other ill-defined infectious diseases (notably febrile convulsions accompanying infectious diseases in children, but also syphilis, appendicitis, peritonitis, and puerperal fever). These three groups therefore accounted for just under three-quarters of the reduction in the death rate. The remaining quarter or so came from a wide range of causes other than microorganisms (notably low birth weight, infant diseases, and diseases of the digestive system).

Why did these reductions in infectious disease mortality occur from the time of the agricultural and industrial revolutions ? Indeed, the existence of growing concentrations of people in urban areas would suggest rather that they should have increased. The main features in the epidemiology of infectious diseases are relatively few : virulence of the disease, method of transmission, transmissibility, host exposure, immunity, nutrition, and our ability to modify any of these features. Let us briefly examine each in turn as a potential explanation of the observed reduction in mortality.

It is possible that some infectious organisms have become less virulent over the past one-and-a-half centuries, e.g. the bacterium responsible for scarlet fever. However, there is no evidence whatsoever that such a change has occurred across the whole range of infectious diseases, nor that the populations of developed countries have acquired corresponding natural immunity. Indeed, the requisite immunity levels would have demanded very high death rates, resulting in the natural selection of the most resistant individuals and the transmission of their immunity to their descendants. We have already seen that death rates had in fact fallen significantly since 1700.

GRIFFITHS

Likewise, no general decline can be demonstrated in the natural transmissibility of the diseases concerned, but there were big improvements in the safety of the water supply and later of foods, notably milk and dairy products, which significantly reduced the available channels of transmission. The same is also true of improved sewage disposal, personal hygiene, working conditions, and housing standards, with more amenities and less overcrowding. These developments also reduced the opportunities for vector-borne diseases, but their incidence was already relatively low by the turn of the century.

What then has been the contribution of medical interventions ? A large part of the modern armamentarium of the health services in immunization and vaccination, drug therapy, and many areas of surgery has been developed only since 1935. The financial and organizational systems to deliver them to the whole population are even more recent, the country's National Health Service did not start until 1948. Death rates were already declining rapidly well before this. For airborne diseases, the standard mortality rate fell by 6.6/1000 from 1850 to 1971, accounting for 40% of the total reduction for all diseases, but only a quarter of this fall occurred after the introduction of specific measures, i.e., only 10% of the reduction for all diseases, and even then not all of this fall was due to medical measures.

While this analysis places the contribution of modern medicine to the reduction of death rates in the long-term perspective of developed country experience, it may be rather too harsh. For example, if the 25-year trend before the introduction of streptomycin in 1948 had continued, we would still have reached the present low death rate from respiratory tuberculosis by the mid 1960s or early 1970s. However, streptomycin considerably accelerated the rate of decline, and the actual deaths from tuberculosis for 1948-1971 were only half what might otherwise have been expected. The same may be argued for the use of antibiotics and other modern drugs and vaccines in treating other airborne diseases, like bronchitis and pneumonia, measles, and ear, nose, and throat infections.

The effects of vaccination and immunization are equally open to various interpretations, even when they are of proven technical efficacity. Whooping cough and measles immunization are good examples. Whooping cough notifications have fallen steeply and almost continuously since 1950, a few years before the introduction of general immunization. Likewise, measles notifications fell

GRIFFITHS

sharply from 1950 to 1956, rose briefly until 1960, then fell sharply and continuously, but national immunization was not started until 1968 and covered only a quarter of children by 1972. The Netherlands achieved the lowest death rates for respiratory tuberculosis in Europe in 1969, without ever having a national BCG programme. In contrast, poliomyelitis immunization, introduced in 1956, virtually wiped out the disease in under a decade. It is often difficult to determine how far intervention simply rides along with established downward trends and how far it maintains and accentuates them when they would otherwise peter out. Accepting the latter, more generous interpretation, modern medical developments have certainly made important contributions to reducing morbidity and mortality, but their role is clearly minor relative to that of other socioeconomic developments.

In our search for an explanation for the bulk of the reduction in infectious disease deaths, we are left with the remaining factor: improved nutrition leading to an increased resistance to disease. Agricultural production in England and Wales increased from the early eighteenth century and continued to do so, supplemented by the resources of an enormous empire, in the nineteenth century. These favourable nutritional conditions were considerably enhanced by the significant decline in the birth rate during the twentieth century.

The involvement of inadequate nutrition in lowering resistance to disease is massively supported by contemporary evidence in developing countries, where nutritional conditions often resemble those of pre-industrial England, and the World Health Organization has estimated that from a half to three-quarters of all deaths in infants and young children are due to a combination of malnutrition and infection.

It is clear from this brief historical review of one country's mortality experience since the beginning of industrialization, that improvement in nutrition has been by far the most important factor in reducing mortality, particularly from infectious diseases, which previously caused the majority of deaths. Secondly, improvements in hygiene, housing, and working conditions made a substantial contribution to reducing water-, food-, and vector-borne diseases. Thirdly, these improvements were protected and enhanced by a fundamental behavioural change, the reduction in the birth rate. Finally, preventive and therapeutic personal medical services, which arrived comparatively recently in the development sequence, have (with some exceptions) made comparatively little difference to

GRIFF ITHS

mortality and life expectancy overall, but have helped maintain or accelerate pre-existing trends.

So much for the past; what of the present and the future ? On the basis of the above analysis we should be able to predict our health problems from the chief socioeconomic characteristics of our developed societies. Crudely, using the most widely available single indicator of economic development, gross national product (GNP) per capita, the developed countries are the 60 or so countries in the world whose GNP per capita is US\$2000 or more. Roughly a quarter of the world's population live in these countries, but they enjoy over four-fifths of its GNP. Indeed, within this group, over half of the world's income is concentrated on only 13.5% of its population in 28 countries. Evidently, there is more to development than a high GNP per capita. In terms of employment and production, it is characterized by high proportions of employment and GNP from secondary and tertiary activities, and low proportions from agriculture. Production is generally capital. technology- and energy-intensive, industrialized, and highly productive. A high proportion of the population is urban. Transport (including private car ownership), communications, and mass media are highly developed. Housing and hygiene standards and nutritional intakes are high. Primary and secondary education are universal, and tertiary education is highly developed. Quantified confirmation for all these indicators may be found in sources such as the United Nations Statistical Yearbook.

Turning to the mortality picture, five main disease groups now account for around nine out of ten deaths in developed countries; two-thirds to four-fifths of these deaths occur after the age of 65, and only 1-3% occur in infants under one year old. The most important cause of death is diseases of the circulatory system, notably ischaemic heart disease, cerebrovascular diseases, hypertensive conditions, and diseases of the arteries, which together account for half of all deaths. Neoplasms come next, accounting for a fifth to a quarter of all deaths. Accidents, poisonings and violence, the third largest cause of death, are of considerably less importance, accounting for as little as 3.5% of the total mortality in the United Kingdom, but around 6-8% elsewhere. However, the great majority of the deaths occur in the younger age groups and therefore have a disproportionate impact in terms of years of life lost. Though their relative contributions vary from one country to another, road traffic accidents, domestic accidents, and suicides account for a substantial proportion of deaths from this cause. Of the remaining two leading causes of

GRIFFITHS

death, respiratory diseases, generally accounting for 5-7% of the total mortality, primarily involve the elderly, with long-term degeneration of function and resistance until they finally succumb to pneumonia, bronchitis, emphysema, and asthma. Thus their deaths are in a sense a tribute to our success in reducing other causes of death and prolonging life expectancy. Progress in drug therapy and surgery is also evident in connection with the fifth main cause of death, diseases of the digestive system, mortality from ulcers, appendicitis, and intestinal obstructions being low, though deaths from cirrhosis of the liver vary from 3.7 per 100 000 in the United Kingdom to 32 per 100 000 in France, and in Austria.

Ironically, nutrition is still a major factor in the creation of health problems in developed countries, but now overnutrition and high alcohol consumption, made possible by high productivity and income, have become fundamental causes of death, i.e., from circulatory diseases and from cirrhosis of the liver. Our highenergy, low-physical-effort production systems and highly developed transport facilities make for a generally sedentary life-style, which exacerbates the problem. The urbanized, high-density, impersonal, achievement-oriented social structures associated with industrialized development demand continual rapid adjustments and are often anomic and highly stressful. Indeed, there is even evidence that death rates are adversely influenced by sharp peaks and troughs in economic activity. Stress and alienation are certainly important factors in heart diseases and deaths, in suicides and high psychiatric morbidity, and in the fast aggressive driving and excessive alcohol consumption implicated in most road traffic accidents. Finally, smoking, particularly of cigarettes, contributes considerably to deaths and morbidity from circulatory diseases, cancers of the lung, throat, and buccal cavity, and respiratory diseases. Indeed, the 13-year increase in life expectancy from 1850 to 1970, for persons over 25 years old who are non-smokers is almost halved for those smoking more than 25 cigarettes a day.

Clearly, it is still factors related to our socioeconomic development that chiefly affect our health. However, the emphasis has largely shifted from areas dependent on social action, like basic provision of food and environmental improvements, to areas of personal behaviour concerning nutrition, smoking, alcohol, social alienation, and stress.

Little of our considerable knowledge and resources has been devoted to changing these basic factors. We are irrationally suspicious of any attempt to modify our personal behaviour, even

GRIFFITHS

if it kills us ! For example, efforts to reduce smoking have been limited to restrictions on advertising and timid warnings on cigarette packets; speed limits, which reduce road traffic accidents, owe more to oil prices than safety considerations; safetybelts and crash helmets are hotly contested: and drink-drive laws have been justified more by the threat posed to others than by the risk to the driver.

Indeed, our health services are based on a different and unsupported philosophy: that we can avert the health consequences of our behaviour by having more and more sophisticated personal medical services that can make us well when we become ill. In our massively expensive hospital services, around half of non-psychiatric admissions and over half of the bed-days are consumed by the largely avoidable diseases in the top five causes of death. In addition, psychiatric conditions (including subnormality) can take up to a third of all beds and a fifth of hospital spending, as in the United Kingdom.

A variant on Plato's allegory of the cave is fitting. We are like a man who has built a fire to keep himself warm, but continues to feed it until it begins to roast him. Frantically he seeks ingenious devices to measure his discomfort accurately and to cool himself down. But, dazzled by the roaring success of his fire, he fails to see that the obvious remedy is to put less wood on it.

Effectiveness and Cost

The second proposition offered was that much of what is done in the health services is of unproven effectiveness and even what is technically efficacious is often not cost-effective.

Clinical medicine is an art which uses the sciences. It often requires quick decisions based on incomplete, uncertain information. Fortunately, much of the work in both general practice and the major hospital specialties involves a relatively small number of conditions, and doctors quickly acquire the essential art of pattern recognition, often to a very refined and reliable level, observing and eliciting signs and symptoms and comparing these against their mental repertory which characterizes and differentiates particular diseases. However, this approach tends to compress and blur the normal steps in scientific problem and decision analysis, so when pattern recognition fails, it is all too often replaced by the diagnostic shotgun approach in the hope that a large enough battery of tests will suggest some diagnostic clue. Indeed, many of the more scientifically oriented younger generation use the diagnostic shotgun to create diagnoses rather than to confirm, reject, and differentiate them. Add to this the prestige and fascination associated with sophisticated scientific and technological techniques and equipment, and the clinical freedom to use them without having to be concerned with their costs, or necessarily with their eventual clinical value, and we have the ingredients for the problems illustrated below.

Two very basic examples will illustrate the tendency to cling to routine procedures, regardless of their usefulness. First there is the still virtually universal practice of swabbing the skin with alcohol before an injection. It was necessary when hygiene was poor and the skin was often manifestly dirty, but now it is little more than a ritual, because it requires considerably more than the habitual few seconds for alcohol to kill skin bacteria. This elementary textbook logic has been supported by randomized controlled trials. A second practice, now in decline, is the charting, two or more times a day, of the temperature, pulse, and respiration of acute hospital patients, regardless of their diagnosis or state of recovery. The disappearance of this hangover from the days when febrile diseases filled our hospitals has not at all harmed patient care - on the contrary, it enables nurses to concentrate their attention selectively where it is needed.

The problem of unnecessary, ineffective diagnostic procedures is both more complex and more costly than these two simple examples of stereotyped procedures. For example, pathology test requests in England increased by around 7% a year throughout the 1960s and into the mid 1970s, i.e., they roughly doubled every ten years. During the same period, the decennial increase in hospital doctors was about 55%, in hospital admissions only about 25%, and in outpatient consultations about 20%. Though exact ratios are hard to derive, this meant that the request rate per doctor grew by a third or more while the rate per patient grew by over half. The decennial increase for radiography consumption was lower, at around 50%, with some evidence of an accelerating increase in the early 1970s. In France, the consumption of radiology has grown much faster, averaging 10% a year, and slighly more in the early 1970s; in fact, it has roughly doubled every seven years for the past two decades. Much of this growth is due to increasing capacity, e.g., pathology laboratory staff in England has been growing at over 6% a year, while radiology staff and equipment in France have been increasing at over 8% annually. Multichannel auto-analysers and small fast radiography machines have also undoubtedly helped to increase the consumption.

However, closer analysis reveals large variations in consumption rates. One analysis of the 14 health regions of England showed a variation of 1 : 1.7 between the highest and the lowest in the average consumption of radiography units per hospital admission, and the variation in consumption per head of population was markedly greater. Similarly, a regional variation of 1 : 3 in radiology consumption per head has been shown in France. Large variations in consumption rates of both pathology and radiology have also been shown between hospitals of the same type, and even between clinicians in the same specialty.

The most that can be shown at the level of specific diagnoses is that some have a high average and others a low one, as might be expected. The variation within standardized diagnoses remains very marked. An examination of 1800 cases in 8 English hospitals, covering 15 standard diagnoses, showed no internal consistency and failed to find any clear explanations for the variations in terms of length of stay, age, or complications, e.g., for 148 simple hernias in 6 hospitals, the average pathology consumption was 17 standard units per case, but the lowest hospital average was only 2 units and the highest was 53 units. Likewise for radiology, the overall average for hernias was 0.8 units per case, but the hospital averages varied from 0.1 to 2.4 units per case. In short, the use of the diagnostic services has increased very heavily, but with considerable variations and little discernible rationale.

The kind of growth described above, steadily progressive and haphazardly varied, is well described as 'technological creep'. Existing capacity is used increasingly because it is there, and improving productivity expands it further. As pressure on capacity grows, small increments are added each year, leading to large increases in the long term. As long as such increases do not have to be shown to be necessary and effective, the technological creep easily passes unnoticed in the short term, and is hard to control.

The same applies to new technology and procedures: what might be called 'technological jumps'. If the equipment is not too costly, or if effective controls are lacking, new technology can spread rapidly and widely, propelled not only by those who produce it, but by doctors and others who find prestige in having the latest technology, and extra income from using it extensively and often needlessly. There is an implicit philosophy that all that is possible is necessary, which is neither logical nor feasible with high costs and limited resources.

A good example of the wide dissemination of innovative diagnostic technology is electronic foetal monitoring (EFM), introduced in the late 1960s and now used to monitor over half of all births in the USA. A thorough review by the National Center for Health Service Research earlier this year found that, electronic monitoring of foetal heart rate and foetal scalp blood sampling, 'even when used together are imprecise with 44 per cent false positives and 19 per cent false negatives... Assuming relatively high rates of sensitivity of 80 per cent and specificity of 90 per cent, the PV (predictive value = percentage of abnormal tests denoting true abnormalities) of a positive or abnormal test is only 14.0 per cent. This indicates that an abnormal EFM pattern incorrectly predicts outcome 86% of the time.' It follows that EFM considerably increases the risk of inappropriate intervention. EFM itself carries a variety of risks to the foetus from haemorrhage and infection, and the rate of Caesarian delivery is twice or three times higher for women undergoing EFM, than for those monitored by auscultation, even in randomized controlled trials. The author concludes, 'The evidence for benefit from EFM is contradictory and confined to a small decrease in mortality among high risk patients, particularly low birth weight patients.'

The annual financial cost of this foetal monitoring for half the births in the USA amounts to US\$80 million for monitoring and US\$222 million for consequent Caesarean sections, US\$50.5 million for neonatal morbidity and mortality and US\$58.5 million for maternal morbidity and mortality. This totals US\$411 million a year, compared to an estimated expenditure of US\$80 million on all public and private child immunization programmes, for a procedure whose benefits are little better than those of auscultation.

The same rapid dissemination of new technology may be found even when it demands large investments. The most recent example of this is computed tomographic (CT) scanning, arguably the greatest development in radiology since X-rays were discovered. Each scanner costs upwards of £300,000 to install and around £70,000 a year to run and maintain (compare a renal dialysis machine at Between 1973, when the first commercial brain around £5000). scanner was introduced, and 1977, the United Kingdom installed 30 brain and 11 body scanners. Though the structured planning and closed budget system of the National Health Service (NHS) largely controlled their introduction, only two of the nine body scanners installed in NHS hospitals were bought with public funds. All the others were paid for by charitable and endowment funds: their running costs, however, will be covered out of public money. In the USA, with much less effective control and an open-ended

GRIFFITHS

financing system, over 760 scanners were installed in the same period, including possibly 200 body scanners. If each of these machines did 2,000 scans a year at an average charge of US\$300, the annual cost would be US\$456 million and could quite easily be 50% more if their capacity were intensively used, as would be reasonable with such expensive equipment.

Clearly, CT scanners have enormous diagnostic potential, but their hugh cost sharpens the question of how they should be used and how many are needed. At what point would the money for an extra machine be better spent otherwise ? The enormous potential of the machine itself poses a fundamental question. How justified is it to go on pursuing diagnostic precision at vast cost if it far exceeds therapeutic effectiveness ?

Screening programmes are yet another major area in which diagnostic procedures of unproven benefit have proliferated. Indeed, many programmes have started or expanded despite evidence of little benefit and high costs. The list of problems and conditions for which screening programmes have been introduced or proposed in developing countries is long and varied, e.g., bacteriuria in pregnancy, cancers of the breast, cervix, and lung, child development, child deafness, diabetes mellitus, Down's syndrome, glaucoma, handicaps in the elderly, hypertension, iron deficiency anaemia, multiphasic screening, phenylketonuria, pulmonary tuberculosis, rhesus haemolytic disease, and sickle trait.

The epidemiological, clinical and economic criteria for assessing the desirability of screening programmes are now well established. Programmes for several of the conditions mentioned above do not satisfy these criteria at all for various reasons: because incidence of the disease is low and treatment at the symptomatic stage effective, e.g., respiratory tuberculosis; because long term compliance with therapy is poor, e.g., hypertension; because the condition as clinically defined is not generally associated with functional problems or excess morbidity, e.g., sickle trait and iron deficiency anaemia; or because treatment is relatively ineffective, e.g., lung cancer. Many other programmes can be justified only for populations with high incidences of the disease concerned or for carefully defined high-risk groups at specific intervals, or in well-defined circumstances, e.g., bacteriuria in pregnancy, breast and cervical cancers.

These examples demonstrate clearly that much of the proliferation and increasing consumption of expensive diagnostic technology is unjustified, and this stems from the failure to ask a basic

GRIFFITHS

question for each procedure: does it change any decision ? If not, then it is of no use. Fortunately, work to identify the most effective type and sequence of investigations for diagnosing particular conditions is now slowly gaining ground. For example, in England, cost-conscious diagnosis of hypertrophy of the thyroid has been shown to be equally precise, faster, and 30% cheaper than the traditional approach, and, in the USA, costconscious use of urography suggests economies of over 40%, representing annual savings of over US\$300 million nationally.

For new diagnostic technology, evaluation is needed at six levels, to determine : 1) what the new procedure measures and how accurately; 2) the diagnostic value of this information; 3) the extent to which other procedures are replaced or avoided; 4) the changes made possible in treatment; 5) the effect of these changes on the outcome for the patient; 6) the frequency of the conditions for which the new procedure is useful. Again, we are not asking the appropriate questions or, if we are, it is not reflected in our decision-making.

The position is much the same for therapy, and here again a few examples will serve to illustrate the problem. The average stay in non-psychiatric hospitals varies from under nine days in the USA to around two weeks in France, and almost three weeks in Sweden. This partly reflects international differences in the role and case-mix of hospitals. However, similar differences have been shown for specific diagnoses and surgical operations such as tonsillectomy, hernia repair, cholesystectomy, dilatation and curetage, and so on. An even better-known example is in obstetrics, where length of stay policy for normal deliveries with adequate home conditions seems to vary from 48 hours to a week or ten days, with no apparent difference in outcome.

Surprisingly little effort has been made to compare costs and outcomes in these existing situations, and even less to do so through specially designed studies, despite the very high cost of a hospital day, most of which is incurred whether the patient uses the services available or not. The enormous economic implications of variations in length of stay were recently emphasized in a study, which showed that if the average hospital stay in France were the same as in the USA, it would need only 55% of its beds.

Similarly, costs are often ignored in choosing between specific therapies for given conditions. For example, in many cases of varicose veins, inpatient surgery and outpatient sclerotherapy are
equally effective, but surgical treatment has been shown to be four times as expensive to the health service, and to the patient in terms of lost earnings during convalescence.

Efficiency and Expenditure

Extensive international data on health expenditure, published by the Organization for Economic Cooperation and Development (OECD) in 1977, shows that the developed countries spent an average of 5.7% of their gross domestic product (GDP) on health services in the mid 1970s and that around 80% of this expenditure was publicly financed. The range of health expenditure varied from 3.5% of GDP in Greece to over 7% in the Netherlands, Sweden, and the USA. More limited recent studies indicate that the top end of the range is now 8-9%. Health expenditure has increased by over three percentage points of the GDP in the richest countries in under two decades.

Analyses of health expenditure and GDP over time in a given country show a very high correlation. For example, for the United Kingdom, from 1949 to 1979, National Health Service expenditure increased at an average of £6 per £100 increase in GDP, with a correlation of r=0.998. (A similar analysis for the USA for 1950-1974 gives r=0.985). This strong correlation also holds for cross-sectional analysis of different developed countries at the same point in time (r=0.948, with an increase of almost \$70 per \$1,000 increase in GDP). The correlation is rather weaker for percentage of GDP spent on health and GDP, which suggests that different countries do have some influence over their spending, but high or low spending at a given level of GDP is not related consistently to any particular kind of system - for example, Switzerland, with a similar GDP per capita to Sweden, spends significantly less of its GDP on health, and the same is true of Belgium compared to the Netherlands and France.

Breakdowns of the expenditure show considerable variation. The average distribution for public expenditure in the countries covered by the OECD study was 52% on hospitals, 23% on medical services, 11% on medical supplies, and 14% on various other services. However, Canada, Iceland, Sweden and the United Kingdom spent around two-thirds of the total on hospitals, compared with well under one-third in the case of Belgium and the Federal Republic of Germany. Expenditure on medical services varied from 8.5% in Iceland, and 14.5% in New Zealand to 35.7% in Belgium. Medical supplies vary from 4.6% of the total in Denmark to 22.8% in the Federal Republic of Germany. Though differences in public

coverage and in definitions explain some of these variations, strategies of provision clearly differ enormously, and we have no clear idea of their relative efficiency in producing any given kind of service, or the extent to which the services are complementary or substitutable.

The same unpredictible variation occurs for the levels and mixes of resources, such as staff and hospital beds. While staff per bed seems to have nearly doubled in the last decade, levels and rates of change in different inputs reveal no consistent rationale. Hospital bed provision rates vary from 5.1 per 1000 population in Spain to 15.2 per 1000 in Sweden, whereas doctor provision rates vary from 1.04 per 1000 in Portugal to 2.56 per If some countries have very high densities of 1000 in the USSR. doctors and medium densities of beds, (e.g. Austria, the Federal Republic of Germany, and Italy) others have the reverse; medium doctor and high bed densities, (e.g. Norway and Sweden), while the United Kingdom has low densities for both inputs. There is only a slight suggestion of substitution, with high bed and low doctor densities in Finland and Japan and low bed and medium doctor densities in North America, Belgium and Denmark.

The answers to these large variations will not be found by macro-level comparisons. What is required, is micro-level analyses of the tasks to be done and the relationship between them, so that appropriate skills, facilities, and materials can be identified and provided. Such analyses are impossible without close collaboration between health professionals, managers, and researchers, and useless without close collaboration for change between these and governments.

Conclusions

This paper has presented three challenging propositions. If they are true, it is not because of some monstrous dereliction of duty by the health professions, but paradoxically because of the opposite. Clinical medicine is traditionally concerned with applying the best modern knowledge to curing individual patients. Doing the best possible has implied a minor role for resource and cost considerations. The focus on the individual militates against quantitative, statistically based evaluation and thinking, and the emphasis on cure places a premium on progress in order to provide a successful response to the patient's health problems, however difficult.

The message of the first proposition is that a broader longerterm view demonstrates the enormous potential for members of the health professions as active agents in changing behaviour, not simply increasingly sophisticated human mechanics reacting to disease when it is presented to them.

The message of the second proposition is that clinical epidemiology and economics in no way contradict either the ethos of clinical medicine or the clinical freedom to practice. All they seek to do is to establish a medically and economically rational basis for individual clinical decisions.

The message of the third proposition is perhaps the hardest to accept and answer, because it requires flexibility to change and rechange the way in which services are organized and produced and the way in which staff are reimbursed, as well as an open attitude to who does what in a sophisticated labour-intensive service. Change in capital-intensive industries means replacing obsolescent machines. Change in health services means flexibility of roles and retraining of people, and, unless this can be achieved in a secure, participative, and systematic way, the health services will be propelled towards medical and economic rationality by economic constraints and outside controls rather than under their own responsibility and decisions.

It is not the purpose here to propose specific solutions, but the vehicles for a successful answer to these three propositions are already available. It is within our capacity to devise organizational and financial systems that encourage prevention as well as cure - Health Maintenance Organizations, for example, go a long way towards this. It is also well within our means to institute more objective evaluation of what we do, using the techniques of epidemiology and cost-effectiveness analysis. Finally, it is possible to analyse how we produce services, using cost-efficiency analysis, task and skill evaluation, and modern training techniques. Perhaps the key question is whether our vested interests will allow us to do so: whether we are sufficiently motivated to go any further than we have to.

Résumé:

Les lois du marché ne s'appliquent pas à des domaines cruciaux du secteur sanitaire, et on part souvent de l'idée que les professions de la santé fournissent les services idoines et connaissent les meilleurs moyens de les assurer. Ces hypothèses sont récusées

par les trois propositions suivantes. (1) La santé a été et reste principalement déterminée par des facteurs relatifs au développement socio-économique plutôt que par la médecine curative moderne, et pour autant que nos services de soins ignorent ce principe, ils sont mal dirigés. (2) Beaucoup de procédures médicales couramment utilisées sont d'une efficacité qui reste à prouver, et parmi celles qui sont éprouvées, bon nombre n'offrent pas le meilleur rapport coût-efficacité. (3) Les niveaux et éventails de ressources utilisées dans la production de services de santé sont largement diversifiés et ne sont souvent ni justifiables techniquement, ni efficients par rapport au coût.

La première proposition repose sur des données historiques : les chiffres de mortalité en Angleterre et au Pays de Galles durant la principale période de développement économique, de 1841 à 1971. Ces données révèlent que la baisse du taux de mortalité due à des maladies infectieuses, notamment transmises par l'air et par l'eau, représente les neuf dixièmes de cette réduction de la mortalité pour la deuxième moitié du siècle jusqu'en 1901, et près des trois quarts de la baisse de 1901 à 1971. Les seules explications satisfaisantes sont l'augmentation de la résistance naturelle due à une meilleure nutrition, à une eau et une alimentation plus saines et à de meilleures conditions de logement, d'assainissement et d'hygiène.

Une analyse similaire effectuée pour les pays développés dans les années 70 indique que les neuf dixièmes de tous les décès ont cinq causes principales : maladies cardiovasculaires - près de la moitie; néoplasmes - un cinquième à un quart; accidents, empoisonnements et violence - 6 à 8%; maladies respiratoires - 5 à 7%; et maladies du système digestif - 3 à 4%. Les principales causes profondes trouvent leur origine dans des profils de comportement, et des facteurs associés à un développement socio-économique avancé: notamment surconsommation d'aliments et d'alcools, tabac, mode de vie sédentaire, stress, aliénation mentale, et accidents. Une faible partie de nos connaissances et ressources contribue à modifier ces causes, alors que des fonds toujours plus importants sont affectés aux services de santé pour faire face aux maladies qui en découlent.

La second proposition repose sur des exemples de poursuite systématique de procédures superflues (par exemple nettoyage d'une peau propre avant de faire une piqûre) et sur l'escalade annuelle de 5 à 10% dans l'utilisation des services de pathologie et de radiologie diagnostiques, sans raison d'être évidente. Les nouvelles

68

technologies se sont également répandues rapidement, par exemple la surveillance électronique du foetus est déjà utilisée pour la moitié des naissances aux Etats-Unis, pour un coût estimé à \$411 millions par an, alors que cette technique n'entraîne qu'une légère réduction de la mortalité dans les cas à risque élevé et augmente le risque d'intervention inutile dans les cas normaux. Même les investissements élevés n'ont pas d'effet dissuasif, car 760 scanners tomographiques à ordinateur incorporé (à plus de \$300.000 chacun) fonctionnaient aux Etats-Unis dans les quatre années suivant leur apparition en 1973, alors que leur utilisation adéquate et leur efficacité n'étaient pas encore clairement établies. Les procédures de dépistage de faible efficacité ou peu efficaces par rapport au coût sont également courantes. Toutefois, des travaux récents font entrevoir des économies substantielles par la mise en place de protocoles diagnostiques plus rentables, et six questions systématiques sont proposées pour l'évaluation des technologies nouvelles. Des pratiques thérapeutiques pour des diagnostics donnés révèlent également d'importantes variations qui restent inexpliquées, par exemple en durée de séjour hospitalier, et un manque de conscience des coûts dans le choix de diverses interventions d'efficacité similaire mais de coûts différents.

Finalement, des différences majeures en matière d'efficience sont à la base des variations internationales considérables qui existent dans la part du PNB consacrée à la santé et dans sa répartition entre les différents services. Nous n'avons pas d'image claire des efficiences relatives des différentes stratégies ni des niveaux et éventails variés des ressources telles que les lits et les personnels des hôpitaux. De telles questions ne pourront être résolues que grâce à des analyses pluridisciplinaires limitées à des champs bien spécifiques de tâches à accomplir et de compétences et d'infrastructures nécessaires.

Ces trois propositions appellent les conclusions suivantes : les professions de la santé devraient s'attacher à jouer un rôle plus actif dans la modification du comportement et ne pas se contenter de faire fonction de techniciens cliniques; l'épidémiologie et l'économie cliniques peuvent contribuer à améliorer la prise de décisions cliniques rationnelles dans le domaine médical et économique, sans entraîner leur liberté; et enfin, les professions médicales devraient s'attacher à rechercher, dans un esprit de souplesse, des méthodes rationnelles, si elles veulent conserver la responsabilité et le contrôle de leurs propres activités.

The moderator invited the participants to respond to the persuasive and provocative points made by Mr. Griffiths and asked the invited discussants for their comments.

<u>Mach</u>: It is quite difficult to make comments after such a comprehensive review of the situation as we have heard this morning, particularly if one agrees with most, if not all, of the statements. However, such issues deserve repeated emphasis. I believe that all of us present in this conference room who are allowed to discuss health policy and economics should consider ourselves as privileged; after all, there are many millions of people around the world working in the health profession who discuss inevitably and daily many aspects of so-called health policy without ever being really heard or asked about their opinions. As for the users or consumers of health services, an even small percentage has the privilege of expressing opinions about what is happening or should be happening in the field of health.

However, admitting that we are privileged and that we are all interested in health policies, we could ask the question 'Why should health professionals be interested in economics ?' After all, they have learned a technical discipline, they are properly exercising their skills in a respectable field. Similarly, the average lay person, as long as he or she does not feel sick, seldom troubles to think about health services, the proper or wrong ways of delivering health care, or its cost. Where the realities of life compel people to start thinking about health, health services, and their cost, the health professional starts worrying if, for economic reasons, he or she cannot find a job or loses it, or cannot get a research grant or subsidies as he or she used to in the past.

The economic environment is changing around us. The taxpayer in industrialized countries is told by the mass media that he works about a month or more a year, only in order to pay through his taxes or social security contributions for the health services, which might become even more expensive next year. Providers of health care in developing countries are fully aware of the economic constraints that impose severe limits on their activities. And the people in many less affluent countries know that, as in most other areas of life, there is a scarcity of services, drugs, and help in general when they are in need. Awareness of such facts in many quarters has led to reactions.

Five years ago, against this background, a small group of people in WHO and UNICEF started work on a study of alternative approaches to meeting specific health needs in developing countries. The starting-point was a list of health service failures and problems such as those already mentioned by the speakers. The sorts of failure listed - such as little or no access by the majority of a country's population to any sort of health service, inequitable distribution of services between rural and urban populations or between difficult strata of their society, and lack of the resources required for Western-type medicine, hospital-based and using sophisticated equipment - were not being resolved.

WHO and UNICEF teams started in selected places - from Venezuela to China, from Niger to Tanzania - to search for alternative approaches to meeting health care needs. At the same time, hundreds of experienced persons, many of whom had spent all their lives trying to develop health services in their own countries, were approached by letters, questionnaires, or interviews to find out how they saw the possibilities for improvement. And, by an amazing consensus of many persons around the world, the present primary health care concept started to emerge and take shape. Obviously, as with any other policy, it has its opponents, its critics, who object to one or other of its components - on a technical basis or even for personal reasons. However, the majority of countries and finally all Member States of WHO agreed on the concept and its potential contribution towards the goal of health for all.

Professor Abel-Smith said that the same fundamental questions are being asked both in the more affluent and in the developing countries. What is the most cost-effective way of improving health ? If reorientation of the health services is needed, how can such change be best achieved ? What should be the priorities in such areas as health technology and health manpower facilities, and how could their financial support be best ensured ? The difficulty, of course, is that problems like these are raised very often at national and international meetings. We have publications proceedings of meetings on health economics - which stated some of those problems 10 to 15 years ago, but their translation into action, into visible programmes to provide evidence for the guidance of policy-makers, administrators, or even individual health providers, has proved more difficult.

WHO is continuously receiving 'messages' in the form of studies, reports, policy decisions, articles, individual communications, proceedings of conferences, and the problem is to find out from

this ocean of information what are the real trends and what is the best solution for any given population. Here, perhaps, it is best to rely on collective wisdom. Some of these messages seem clearly to indicate that, in industrialized countries, the level of expenditure on health has reached the saturation point and many nations are simply unwilling to pay more for their health services in their present form of organization. Let us hope that the usual political process mentioned by Dr Lambo will develop the proper answers. Essentially, it is the providers of health care, the speakers for the public, to a certain extend the economists and other technicians, and ultimately the politicians, who will have to find solutions. There is perhaps more goodwill on all sides than the sometimes heated debates would indicate.

In most developing countries, the search for ways of generating new resources seems to be the primary concern. In pursuit of the goal of health for all by the year 2000, some general strategies have already been developed, and these contain economic guidelines. However, they are still quite general. It is stated, for example, that more resources should be made available for health, that the untapped resources of the community should be mobilized, or that the potential of health insurance schemes should be fully utilized. Obviously further research and definition are needed in these areas, in order to formulate concrete, visible measures that can be implemented by those in charge of overall health development. Leaders of the health sector must sometimes act ingeniously, like business managers, to find the means needed to implement their technical plans.

In the Third Session, 'Organization and Financing of Health Services', you will hear more about the work done so far by different countries in this area, very often in conjunction with WHO, and the views expressed by this Round Table Conference might provide us with valuable ideas regarding the direction of further work.

Cochrane: Much of what I intended to say has already been said so I will concentrate in some detail on ways in which money can be saved from the health services in developed countries without detriment to patients. Few people realize how much is actually wasted at present in most, if not all, developed countries. The first example I want to give is the way doctors are paid. From my experiences around the world, I think paying doctors on a fee-for-service basis is absolutely disastrous. In the first place, it is very expensive, the amount of paperwork involved being enormous compared with that for salaries paid out of direct

72

taxation. In addition, it encourages unnecessary prescribing, operations, and interventions of all kinds. For example, in one area it was shown that surgeons trained in the United Kingdom who migrate to Canada and then come under a fee-for-service system carried out seven times as many cholecystectomies as their colleagues who remain in the United Kingdom on a salary basis. There is no evidence of any advantage to their patients, but there is a great monetary advantage to the surgeons. I also consider fee-for-service bad because it specifically discourages care as opposed to cure, as care can't be itemized. I think care is as important as cure in the work of the medical profession.

Another big area where great savings can be made is that of hospitalization. Randomized controlled trials should be carried out to evaluate what goes on in acute general hospitals. The first thing is to find out who should go into those hospitals. Trials can be, and have been, done to find out who should be treated at home, who should be treated as outpatients, and who should be treated in hospital. A large number of patients, both medical and surgical, can easily be treated as outpatients. One example is coronary disease: the results of two good controlled trials showed that for men over 60 it is far safer to be treated at home if you have a coronary, and survival is definitely better if social conditions permit. For those who have to go into hospital, controlled trials have shown that mobilization on the third day and discharge on the sixth are actually advantageous for the patient. But there are still consultants in my country who keep their patients in for 30 days. When I was a young houseman I was told to keep them in for three months - thank God there has been some improvement !

A third example of an area in which a big saving is possible is that of prescribing in primary care in developed countries. Т have repeatedly said in public that 50% of what is prescribed in the United Kingdom in primary care is absolutely ineffective, and no-one has ever contradicted me. I have now begun to believe that prescribing practices in other developed countries are even worse. Some time ago, I published figures from the United Kingdom showing that we were using 20 times too much Vitamin Bl2, compared to what was needed, for megaloblastic anaemia and after gastric surgery. I thought that was bad enough, but I discovered that the per capita consumption of B12 is a hundred times greater in France than in the United Kingdom (I have every reason to believe that it is even worse in some other countries); that gives an inefficiency ratio of 2000. I would like to make a specific plea that figures for per capita consumption of common drugs should be obtained and published. I am sure this is a job that WHO or OECD or CIOMS might do and that the publication of these figures would have a very good effect on prescribing in many countries.

Another area of potential savings is that of the paramedical services, which should be evaluated by means of controlled trials. I recently chaired a very depressing commission on the treatment of backache in the United Kingdom. We collected all the data, and for acute backache no evidence was found of care by physiotherapists and suchlike having any effect. Indeed, the copper bracelets used in one Australian trial seemed very much better than any physiotherapy !

Similarly, there were some excellent controlled trials in the United Kingdom, in which trained social workers were randomized against untrained social workers. In no case did trained social workers present any advantage over untrained ones. This does not cover the whole area of social work, but it does make one rather suspicious about the situation.

If we are going to help ourselves and to help developing countries, we must evaluate everything in medicine. This will require an enormous amount of work. At present there are really only two countries doing this - the USA and the United Kingdom and I think it is absolutely scandalous that so little of this work is done in the other developed countries. I was recently lecturing on controlled trials in Europe, and at the end I was taken aside by a professor who said 'Dr Cochrane, I don't think you realize: in this country controlled trials are done by the pharmaceutical industry, and not by gentlemen'.

I think the economists exaggerate their importance in this sort of work because really most of these trials are going to be negative and we don't need cost-effective analyses. The economists come in very useful when there are two different ways of treating a disease at two different cost levels, but the main evaluation work is the job of the medical profession.

As regards developing countries, I am ashamed that they have been so misled by the developed ones. Others have said they should concentrate on primary care rather than hospitalization, and prevention rather than cure. But none of us seems to have the courage to try out different policies in different regions of their own country. Such trials need not necessarily be randomized, though that would be best, but there is no ethical or any other reason why these

different health policies shouldn't be tried out in similar regions, and the cost and the effect measured. I am sure that this is much the quickest way of discovering what is the best policy.

To conclude, a point to which we have all contributed, I think: we must finally face the problem of the value we are going to put on prolonging human life. This will depend on the age of the patient, if not the sex, and also on the gross national product of the country. The idea has been accepted implicitly in most countries. For instance, I suffer from a rare disease called porphyria - my family does - and we know that if screening was introduced for this condition, a few lives would be saved every year, but the cost would be something like about one million pounds per life. I know I'm not worth that, and it is accepted that there is a limit, but people are very unwilling to discuss this in concrete terms, and until each country decides that there is a limit to what can be done for an individual case then there will be very little sanity in our health services.

Park: I would like to concentrate on issues relating to economic development in developing countries and their implications for health sector development. Although only Professor Monekosso's paper deals with health problems in developing countries, much of the content of the other two papers has close relevance to the problems of health economics in these countries. My comments therefore will not be restricted to the paper by Professor Monekosso.

We have seen much change and progress in developing countries in the past two decades. In almost all countries per capita income has increased, although the rate of increase has varied considerably from one country to another. Much remains to be accomplished, however, particularly in the low-income developing countries in Africa and South-East Asia. As Professor Abel-Smith pointed out in his paper, the achievement of rapid growth in income and the national product does not guarantee an adequate degree of improvement in fulfilling basic human needs for all segments of the population. In recent years government policies in most developing countries have shown increasing recognition of the fact that rapid economic growth is a necessary, but not sufficient condition, for improving the incomes and living standards of the masses. A more equitable distribution of income and opportunities has become a prominent objective of economic development policies. They have therefore explicitly focused on the major issues of employment, income distribution, housing, health, nutrition, education, and rural development. There has been considerable improvement in all these areas in developing countries in recent decades, and the provision of health care services is now emerging as one of the most pressing problems facing these countries.

Nutritional deficiency and related problems of ill health are probably among the most serious manifestations of poverty. As Professor Abel-Smith said 'poverty creates illness and illness creates poverty', thus leading to a vicious circle. Poor health attributable to disease and malnutrition is an important limiting factor in the economic development of many developing countries: a growing number of them are therefore giving health care high priority in their development programmes. A general concern for the health of the people is of course nothing new; what is new, however, is the extent of the awareness that health is one of the important dimensions of national progress and that its improvement requires a concerted effort in all areas of development. Health programmes therefore should not be isolated efforts but should form part of a broad socioeconomic development programme designed to improve the general welfare of the people. The health status of the population benefits considerably from improvements in housing, sanitation, education, and nutrition. There is ample evidence in the literature on economic development that the secular improvement in health standards in advanced industrial countries was primarily the consequence of improvements in social and economic conditions rather than improved methods of medical care. By tracing the historical development of the United Kingdom Mr Griffiths went to considerable pains to prove that this is the case in that country.

Similar trends and results have been observed in developing countries. In the Philippines, for example, improvements in water supply and sanitation are said to have reduced the incidence of cholera by about 70%, and the improvement in health standards in Korea is partly attributable to a rapid rate of socioeconomic development, accompanied by rising food intake and consequent mitigation of diseases and illnesses related to dietary deficiencies. The substantial investment, in water-supply systems, sewage disposal facilities, and housing improvements that has accompanied the rapid economic growth has had a favourable impact on health status by reducing the incidence of water-borne diseases and overcrowded living. From this it is clear that the health problems of developing countries need to be tackled as part of an integrated national development programme.

In most developing countries national development efforts are being specifically directed at multiple goals. In Korea, the new village movement, which was initiated back in 1971 as a comprehensive

rural development programme, was a crucial instrument in raising incomes and improving the standard of living in rural areas. One of the major objectives of the movement was to improve sanitation and eliminate inconveniences in rural living. The upgradding of housing, one of the initial projects of the movement, included the replacement of straw-thatched roofs by tin or tiled roofs, the improvement of toilet facilities and sewage systems, and the repair and modernization of kitchens. The new village movement is also expected to contribute significantly to the improvement of health care in the rural community. A new health care programme is being incorporated into the movement by emphasizing low-cost primary care.

We all know that health programmes in developing countries are biased towards urban rather than rural areas and towards the curative services which generally meet the requirements of the rich rather than towards preventive medicine which can reach more people at lower cost. Thus, the problem in developing countries is to bring health services to rural dwellers at a price they can afford. Preliminary results from current rural demonstration projects in selected countries, including Korea, all indicate that this can be done, if the programme is carefully planned and implemented. In this respect, Professor Monekosso's suggested approach of encouraging extensive, village-level, health-related activities and strengthening local health services is, in my opinion, most appropriate for solving health problems in developing countries.

Laurent: Les excellentes communications de ce matin suscitent évidemment de nombreuses réflections. Je me permettrai de n'en développer que quelques-unes parmi celles, peut-être, qui sont les plus provoquantes.

Je crois que tous les professionnels de la santé tentent depuis longtemps de désenclaver les activités de santé, qui sont trop souvent isolées des autres activités nationales. Alors, à notre tour, je crois qu'il faut éviter que la toute jeune science économique de la santé ne s'enferme elle-même dans une vision sectorielle trop étroite. Si nous réclamons, à juste titre, que la santé soit intégrée à tous les plans de développement - et cela vient encore d'être dit - les dépenses de santé doivent également être analysées dans leur contexte économique national le plus large et, dans cette optique, en tous cas dans les pays industrialisés qui traversent (et sans doute pour longtemps encore) une crise économique profonde, les services de santé peuvent être tenus, au

contraire, pour la bonne affaire de cette fin du siècle. L'augmentation rapide des dépenses confirme en tout cas une chose: les services de santé sont créateurs d'emploi et générateurs de substantiels marchés industriels. En d'autres termes, les dépenses qui peuvent paraître à juste titre exorbitantes, lorsqu'elles sont considérées dans les limites du simple budget de santé, peuvent au contraire ne plus être tenues pour telles au niveau national. Dans nos économies en récession et dominées par le chômage, les achats massifs par exemple de scanners computérisés doivent être mis en balance avec la valeur des heures de travail industriel qui auraient été chômées, et donc indemnisées aussi, si ces marchés hospitaliers n'existaient pas. Cette vision n'est évidemment valable que pour les pays industriels et. en particulier, ceux d'entre eux qui sont producteurs et exportateurs de technologie. Mais même dans les pays en développement, la santé - ne l'oublions pas - est une source d'emploi et donc constitue un élément de progrès économique et social pour ceux, en tout cas, qui en vivent.

Mais cette approche plus largement macrométrique des choses et des dépenses, notamment, devrait en tout cas nous permettre d'éviter dans les pays industrialisés, comme dans les pays en développement cette fois, de tomber dans la tentation de peser sur l'offre de soins, en partant du constat, qui est vérifié bien sûr, que c'est cette offre qui induit pour une large part la demande, donc la dépense. Je crois, en effet, que le marché de soins répond au moins à une loi économique générale: c'est celle qui dit que toute contraction de l'offre suscite des effets inflationnistes, si une action parallèle et coordonnée n'est pas exercée en même temps sur la demande. Il faut donc se garder me semble-t-il, de toute action trop systématiquement unilatérale.

Mais comment peut-on agir sur les deux pôles du marché, l'offre et la demande ? Peut-être en retournant à la base même de toute l'architecture contemporaine de nos services de santé, à savoir le droit à la santé. Que ce soit dans l'offre ou dans la demande, tout est actuellement justifié par le sacro-saint droit à la santé. Or, je ne connais pas de droit qui n'entraîne pas corollairement des devoirs, et ces devoirs de santé sont curieusement passés sous silence ou, en tout cas, déformés. C'est au nom du droit à la santé qu'on estime avoir le devoir de soigner, à n'importe quel prix, tous les maux, y compris ceux qu'on invente ou ceux qui sont créés par ceux-là mêmes qui ne respectent pas leurs devoirs de santé. Et du côté des clients, le devoir de santé semble curieusement se limiter au seul paiement des cotisations de sécurité sociale, qui justifie de ce fait toutes les

78

demandes et toutes les exigences. Mais celles-ci s'adressent à la société, devenue dispensatrice de tous les bienfaits et, en même temps, résponsable de tous les maux. Ainsi, par un paradoxe pour le moins curieux, nous socialisons de plus en plus les risques de la vie et les problèmes individuels, au fur et à mesure que les individus deviennent, soit par instruction, soit par éducation, soit par la croissance de leurs revenus personnels, de mieux en mieux capables pourtant de prendre soin d'eux-mêmes, Nous avons instauré les protections sociales au nom des plus déshérités, mais ce sont les moins démunis qui en profitent le plus. Nous avons institutionnalisé à grands frais tous les problèmes sociaux et tous les problèmes médicaux et justifié ou encouragé par là-même toutes les abdications individuelles. Les exemples foisonnent à cet égard, que ce soit dans l'organisation des soins aux vieillards, des petits enfants, des handicapés et j'en passe; bien plus, en compartimentant ces institutions, on a fait que chacune d'entre elles fonctionne en vase clos et tente de résoudre par elle-même les problèmes qu'elle rencontre ou suscite à coup de spécialistes et techniciens, sans se rendre compte qu'il suffirait peut-être d'utiliser les expériences d'autres institutions. S'il y a une chose que les pays en développement doivent se garder d'imiter, c'est bien cette tendance à vouloir résoudre par l'institutionalisation des problèmes qui peuvent être (et qui sont d'ailleurs souvent chez eux) épongés spontanément par la communauté, par la tradition, par la coutume. A ce sujet, j'abonde évidemment dans le sens de nos orateurs de ce matin, lorsqu'ils font appel à la conscience même des individus - lorsque le Professeur Monekosso, par exemple, fonde sa première ligne d'activité communautaire sur une organisation assumée par les gens et pour eux-mêmes.

Une telle organisation, réalisable et valable pour les problèmes à caractère social, y compris ceux relatifs au mode de vie, aux traditions alimentaires, à la production de vivres sains et utiles, par example, me paraît cependant beaucoup plus aléatoire en matière médicale. Car, dans les pays en développement, même parmi les plus démunis d'entre eux, il ne faut pas sous-estimer l'impact irréversible des services de santé existants et l'importance financière réelle qu'ils y ont déjà. Les études de financement des services de santé sont révélatrices sur ce point. Dans l'une d'entre elles, que le Professeur Monekosso m'a fait l'honneur de citer, les dépenses réelles pour la santé sont cinq fois plus élevées que le budget du Ministère de la Santé publique du pays considéré, et la masse monétaire ainsi mobilisée équivaut à plus d'un tiers des dépenses du budget national de toute la nation. C'est énorme et cela pose clairement un certain

nombre de problèmes et de responsabilités; responsabilités notamment des aides extérieures, qui sont souvent importantes, mais nombreuses et multiformes, et qui sont rarement concertées et coordonnées, que ce soit dans l'optique d'un calcul coût-efficacité ou dans celle des objectifs visés ou des stratégies proclamées publiquement; responsabilités, aussi, des autorités nationales, qui, poussées par divers groupes de pression professionnels, tentent à grands frais de résoudre, comme dans les pays industrialisés, la santé par la création de services de santé et de former des personnels de soins qualifiés et souvent même trop qualifiés.

Je ne reviendrai pas sur la démonstration de M. Abel-Smith concernant ces cours de formation selon les qualifactions, mais j'ajouterai en tout cas qu'il n'y a pas de relation évidente entre la croissance du nombre de personnels de santé dans les services et l'amélioration du niveau de santé des populations. J'ajouterai aussi que quelque soit le choix de la formation qu'un pays décide de promouvoir, ce personnel sera souvent rendu inopérant dans la mesure où il ne sera pas soutenu par une structure administrative et économique compétente. C'est sur ce point que les efforts, me semble-t-il, doivent être portés dans les pays en développement. Que ce soit en matière d'investissements, de médicaments, de personnel, etc., la gestion de cet énorme secteur financier doit progressivement être conçue et gérée par un nombre adéquat d'administrateurs compétents. A défaut, nous continuerons de constater que les pays en développement sont des exportateurs de main-d'oeuvre qualifiée qu'ils forment à grands frais et dont ils ont pourtant tellement besoin. Nous l'avons entendu à plusieurs reprises ce matin, les problèmes sont de même nature dans les pays industrialisés et dans les pays en développement, bien qu'ils se situent à des niveaux de gravité différents. Mais, dans tous les cas, les dépenses de santé représentent des niveaux difficilement tolérables et souvent insoupconnés, même par les spécialistes. Les études sur le financement sont là pour le montrer, mais qui induit les dépenses médicales, si ce n'est le personnel ? Dans le seul, mais coûteux domaine de l'enseignement, il y a lieu, me semble-t-il, de faire place à l'imagination et même, sans doute, à des révisions déchirantes des politiques actuelles. En donnant une priorité quasi absolue à la formation des personnels de soins proprement dits, les problèmes de la formation sur place ou à l'étranger, ou des niveaux de qualification à choisir, me paraissent devenir tout à fait secondaires, puisque dans tous les cas la mise au travail et l'efficacité de ces personnels de soins sont sérieusement handicapées par les conditions de travail gu'ils rencontrent

80

sur le terrain. Dès lors, il me paraît que si une aide des pays industrialisés peut d'orienter à l'égard des pays en développement, ce serait bien celle qui vise à encourager la formation en commun de gestionnaires et d'économistes de santé. On gagnerait en efficacité immédiate, puisque dans tous les pays industrialisés comme en développement, les budgets et les dépenses sont colossaux et que le point commun, en tout cas qu'on peut constater entre tous les pays, c'est bien le constat de nombreuses carences de management, notamment dans la formation de ce personnel qui, je le rappelle, induit toutes les autres dépenses.

OPEN DISCUSSION

Rapoport commented that socialist societies were particularly well suited to achieve the health goals discussed by the speakers, and that their health services received high priority, as evidenced by their steadily increasing resources. He suggested that the Cuban achievement in overcoming the imbalances between rich and poor, and between urban and rural communities, deserved more extensive study. He also stressed the importance of leprosy as a health problem in developing countries, and suggested that health education could usefully be combined with literacy campaigns, using teachers at all levels. It is equally clear that economic factors have an important influence on health service in developing countries. This was demonstrated by the Peruvian experience, already ten years old, in which government purchases of drugs reduced prices by 40% to 80%, and free distribution to the population, notably in the tuberculosis programme, significantly improved health. However, Peru's debts since 1976 led the International Monetary Fund to suggest that the scheme should be discontinued. A good scheme of free basic medicines was therefore ended, and drug prices have again gone up. In the light of such experiences, it seems useful to suggest that international agencies should take more cognizance of the goals of WHO.

<u>Bidwell</u> strongly supported the view that health services had played only a very small role in reducing morbidity and mortality in both developed and developing countries over the last two decades. Since most of these reductions stemmed from interventions outside the health sector, the present preoccupation with health economics seemed to be unwarranted. There should rather be a preoccupation with community development, both urban and rural. This means an intersectoral approach, including health alongside other aspects, such as agriculture, education, and water supply. Ministries of health advise people on the importance of appropriate nutrition and clean water, but do not supply food or bore wells. The concept of "Health for all by the year 2000" is more a behavioural concept than a target for the eradication of disease and the extension of services, and it is by concentrating on the behavioural and communication sciences for health promotion that the best value for money will be obtained.

Hardie, drawing on his experience of developing countries, and of organizing courses for their health service administrators for twenty years, emphasized the importance of simple, convenient mechanisms permitting local health service staff to obtain information at district and village level, as a basis for determining health and socioeconomic policies. Such mechanisms would enable national health profiles and plans, which are often well prepared, to be reproduced and applied at local level. One of the recommendations by the conference might be that WHO and non-governmental organizations should emphasize the importance of these mechanisms and help train local staff to develop them.

Management training for doctors and non-medical administrators is equally fundamental. After over twenty years of training doctors, nurses and administrators in health service administration, he reported that it was still common to find deep resentment at the dominance of doctors in health service management, though they often have little or no training or interest in this field. (In passing, it was noted that there were few professionally trained health service administrators or nurses present at the conference, and that there are no professional health service administrators on the staff of WHO.) The essential points are that : a) real attention, and not merely lip service, should be paid to management training in health services, (including training in health economics); b) doctors appointed to management posts should be appropriately trained: c) the contribution of non-medical administrators in planning and managing health services should be recognized, and good people attracted to the field by a proper career structure.

<u>Peretz</u> warned against the danger of overemphasizing statistics on morbidity, mortality, resources, and services to the detriment of the real goal of society in providing health services, that is, improving the quality of life. Statistics do not adequately represent all the aspects of health service activities, particularly when they concern the alleviation of suffering. Secondly, he suggested that developing countries could usefully review their own internal priorities. There is no doubt that these countries

OPEN DISCUSSION

need international aid to augment their own severely limited resources in coping with the extensive and serious health problems that face them. However, many appear to accord relatively low priority to health, compared to other areas such as armaments, hotels, or airlines, and might usefully increase the resources allocated to health by reviewing their priorities.

<u>Sahni</u> returned to the point made in the main papers that increased expenditure on health services in the developed countries, some of which are now spending almost 10% of their GNP on health services, had not resulted in commensurate improvements in the health status of their populations. He noted that developing countries varied considerably in the proportion of their GNP devoted to health services, (e.g., India spent 2% on health services, whereas some of its neighbours spent 4-5%.) Clearly, developing countries find it difficult to decide on an appropriate level of expenditure, and he suggested that the conference might usefully address itself to this question.

van Langendonck agreed that many doctors saw their role as providing the best possible service without regard to cost, and that their medical education might encourage this attitude. However, in practice, doctors deciding how to deal with a particular case clearly weigh the monetary costs, and the disturbance to the patient, against the probable outcomes of the procedures being considered. For example, doctors normally diagnose and treat cases of flu on the basis of certain signs and symptoms and rarely consider it worthwhile to hospitalize the patient for a full battery of tests in order to make a definitive diagnosis. Secondly, Professor van Langendonck agreed that health care is not a very efficient way to promote health and, indeed, sometimes has the opposite effect. However, while there are very good reasons to cut public expenditure on health if it is not efficient, the same arguments do not necessarily apply to private expenditure on health. For exemple, we do not cut private expenditure on housing or on transportation when it is not efficient, and there is no reason to treat private health expenditure differently.

<u>Kasonde</u> stressed the key role of the doctor in dealing with the economic problems of the health services in both developed and developing countries. The doctor's position is crucial both in deciding how patients will use available services and in shaping their expectations of what services should be publicly provided. Burrell suggested that any analysis of the overuse and misuse of high-technology health services should cover the pressures and motives involved. In the context of the USA, he drew particular attention to the pervasive fear of potentially crippling malpractice suits, leading to defensive medicine making extensive use of costly high-technology services.

Marketos emphasized the cost-effectiveness of population- and individual-based preventive and screening services. As examples, he quoted screening programmes to detect bacteruria in pregnancy and active programmes to reduce cigarette smoking and improve eating and exercise habits.

Zweifel agreed with the view that the physician is the key figure in the demand for health care, though most of the literature, at least in the USA, has focused on patient demand. He quoted data from some well managed Swiss insurance funds, showing that, in one year, 10% of the doctors showed an average cost increase of 50% per patient for drugs (sold by the doctors themselves), while 8% achieved a similar increase in expenditure per case on laboratory tests. Other areas of service use showed similar increases, and it is difficult to believe that such increases arise solely from patients' demands.

Cumper proposed that it might be more realistic to treat health as a bundle of different kinds of commodity of different value to different people, in order to express the individual subjective aspects of health which appear to be neglected in some populationbased discussions of health status. Indeed, in some analyses emphasizing the productive value of health, the evaluation criteria adopted might be more appropriate for deciding an efficient veterinary service for a dairy herd than for deciding the appropriate health services required by a human population. A less simplistic approach would avoid much of the wasted discussions that go on in this field.

Logan commented that a certain amount of simplication was perhaps necessary in order to cope with the unprecedented speed and complexity of change in the health sector. However, he supported the previous speaker in arguing against over-simplication. In the developed countries, where 14% of the population are over 65 years old and consume 50% of the acute general surgical services for operations such as prostatectomy, herniorrhaphy, hip replacement, cataract removal, etc., the main outcome will be an improvement in

OPEN DISCUSSION

the quality of life. These patients will be less dependent and the use of the services largely on their behalf must be considered to be cost-effective, even though they are not part of the labour force. Secondly, health services should be considered within their economic context. In particular, it should be noted that medical and nursing careers are becoming increasingly attractive in a world situation of recession and unemployment. It is only recently that the authorities concerned have begun to introduce controls over the numbers of medical and paramedical staff being trained. Given the overwhelming importance of staff in the health services, considerations of this kind are fundamental in any discussion of health economics and policy.

<u>Violaki</u> fully supported the need for adequate evaluation of health technology, and for cost-consciousness on the part of the doctor, but nevertheless felt that attention should continue to be focused on the patient, whose expectations and knowledge of medical technology are constantly rising.

Bettex attira l'attention sur la différence entre la santé et la maladie. La santé est du domaine de la prévention, l'alimentation, l'eau potable, la vaccination, et l'éducation pour la santé. Pour la maladie, les problèmes sont différents, tels que la détection précoce, et les traitements adéquats. Pour les pays en voie de développement, dont les ressources sont très limitées, il conclua que la santé, et donc la prévention, devraient être prioritaires. En passant, il s'étonna que dans le budget d'un des pays en voie de développement, cité par le professeur Monekosso, seulement 0.22% était affecté à l'éducation pour la santé, et constata que c'était très peu si l'on voulait former une population à vivre d'une façon saine.

SECOND SESSION

ECONOMICS AND PROBLEMS OF MANPOWER AND TECHNOLOGY IN HEALTH SERVICES

Moderator: B. K. Adadevoh

ALLOCATION OF MANPOWER AND ECONOMIC EFFICIENCY IN MEDICAL CARE

D. Chernichovsky

Introduction

The medical profession is facing an ever-increasing moral problem. The technology available for extending human life and increasing human welfare is advancing rapidly. At the same time, however, the economic and, probably, moral resources needed for employing this advanced technology are advancing at a much slower rate. Under these circumstances, socioeconomic and political pressures, which may be in disagreement with the medical ethic of saving life 'at any price', tend to build up. Consequently, the medical profession is increasingly forced to make economic decisions in order to maintain its ethics.

Manpower issues are the key for gaining economic efficiency in the health services. The availability and efficient allocation of trained personnel are the principal means of expanding these services and distributing them equitably in society. Moreover, wages and related labour costs have been a major factor, accounting for about 80%, of health care costs, and have contributed most to the upsurge in these costs, at least in the developed economies (2). This reality implies that an economic approach to health care must start with manpower issues as a major means of increasing efficiency in the delivery of medical care.

The objective of this paper is to outline, in broad terms, an economist's approach to manpower problems. The paper comprises three sections. The first deals with the general concept of the efficiency of medical intervention. The second discusses issues concerning the availability and utilization of manpower in the short run, with a given stock and mix of manpower. The final section discusses issues in manpower planning and training, and the use of manpower over the longer run, when the stock as well as the skill combination can be changed.

Need, Medical Intervention, and Efficiency

This section of the paper deals with three interrelated issues : the concept of medical care needs, the economic approach to medical intervention, and the efficiency components of such intervention.

Health and medical care 'needs' are often stressed as a departure point for planning manpower and other requirements for health care. The concept of need may involve, however, applying just moral and ethical criteria in defining the health objectives for a particular population. That is, health needs and objectives may be defined independently of economic considerations of feasibility, under available budgets, prevailing social and political institutions, and market prices. Health objectives, so defined are likely to be unattainable.

Setting high standards for health and medical care is always desirable. It is dangerous, however, to dissociate objectives from the means available to meet them because this may undermine any realistic planning. Moreover, because of limited resources, a medical system that stresses far-reaching objectives and standards may benefit only a small 'privileged' portion of the population. There is always a trade-off between the quality of health care given to a particular segment of the population, say, in urban centres, and the amount of care given to the rest of the population.

In a world where the acquisition and transfer of sophisticated equipment, embodying the latest potential technology in medical diagnosis and treatment, have become trivial matters, the constraint imposed by the availability of appropriate manpower has become more apparent than ever before. It is essential, therefore, in determining the health needs of a population, to consider in particular the availability of the actual and potential manpower to meet these needs on a broad basis.

Economic and social efficiency means settling for what economists call 'the second best'. The second best is less than the ideal, but is feasible in terms of objectives and distribution. It is, therefore, the basis for practical planning, which takes into account more than moral considerations and medical ethics.

Once realistic health objectives have been defined, it is useful to consider economic and social efficiency. The basic social and economic dictate is to gain the maximum social benefits from any activity at the minimum monetary and other costs to society. Scarce resources are thereby spared for meeting other human wants or for more of the same activity, e.g., health care.

In this context, the key analytical problem we face in medical care is that of quantifying the benefits from health care, or, alternatively, measuring good health, which is largely a subjective concept. Consequently, the use of cost-benefit analysis, comparing the costs and benefits of alternative medical interventions, is often extremely complex, and valuations may be arbitrary. Instead, we can adopt a cost-effectiveness approach whereby the objectives of medicine may be identified on normative medical and sociopolitical, as well as economic, grounds. The economic aim is, then, to achieve these objectives, or effectiveness levels at minimum cost, or, putting it another way, to maximize achievements with a given budget (1). On this premise, the broad approach to efficiency may be outlined as follows :

Designing efficient medical interventions, preventive or curative, involves three interrelated tasks, i.e., to identify :

- a) a set of treatable symptoms that relate to a particular objective, say, extending life expectancy;
- b) a set of treatments that may be applied to deal with any particular symptom;
- c) on the basis of a) and b) and a given set of market prices, the most efficient, or least costly, medical intervention to meet this objective.

The most efficient medical intervention does not necessarily involve dealing with the disease causing, say, the highest agespecific mortality rates, or employing the latest technology for coping with particular symptoms.

For a given intervention, three components of effectiveness must be considered : technical-biomedical, behavioural, and economic. The technical efficiency or efficacy of an intervention concerns the biomedical nature of the service delivered and its impact on particular measurable health outcomes or symptoms. That is, to reduce, say, age-specific mortality or morbidity rates, with a given budget and the same level of utilization, care of a particular type might be superior to care of another type, or to nutritional supplements, for example.

This type of effectiveness lies beyond the scope of economic and behavioural analysis; yet, it cannot be dissociated from a

given socioeconomic environment because of interactions or synergetic relationships with economically related phenomena. A particular treatment may be efficient on biomedical grounds in one community and inefficient in another, because the latter community is subject to economically related sanitation and malnutrition problems, offsetting the effects of the intervention in that particular community.

The behavioural or socioeconomic effectiveness of a programme concerns the behavioural factors relating to its utilization by the target population. That is, a particular programme, implemented with identical resources in different socioeconomic environments, may have a variable impact because of differences in utilization patterns and possible interactions between programme services and socioeconomic and environmental conditions. Each medical programme has behavioural implications which are largely determined by the manner in which it is handled by the medical personnel who deliver it. This is a critical point which must be considered when outlining manpower requirements.

Economic efficiency concerns the internal allocation of resources or inputs of a programme, within its budgetary and other constraints. That is, two projects delivering identical types of services in identical environments may yield different results because of different management of equal resources. Largely in this context, the following section deals with some basic principles of manpower allocation.

Labour Allocation and Employment in the Short Run

The availability of any kind of trained or skilled manpower is considered fixed in what economists define as the short run. That is, before we can train, or obtain through migration, new personnel, we have to deal with a stock of physicians, nurses, and other paraprofessionals, whose participation in the labour market is usually regulated by employment and wage policies.

In the short run, this stock of skill or human capital must be allocated in such a way as to reduce the costs of any particular treatment. Such an allocation is based on the substitution of relatively less expensive skills, and possibly equipment, for more expensive skills, in tasks where such a substitution is possible. ¹

92

When explicit market wages (including fringe benefits) do not account for the cost of a particular type of labour, the cost of training can be used as a substitute for evaluating the relative prices of various skills.

Many examples can be cited of physicians performing duties that can be performed by nurses, midwives, or other paraprofessionals as well as social workers, whose training costs and wages are lower than those of physicians. In many cases, the economic substitution does not take place, because of traditions and conservative legal restrictions, which have no economic or other justification, even considering the risks of such substitutions. This is the case particularly in public medical services where individual incentives for substitution are lower than in private practice.

The USA is known as having probably the highest expenditures per capita on health. Yet, its performance on infant mortality and life expectancy has been relatively poor. The statistics may be inadequate indicators of effectiveness, but we cannot ignore the fact that the USA has among the highest ratios of expensively trained physicians per paraprofessional and this does not necessarily improve medical care, especially when the equity of service distribution and quality is considered.

A related economic issue concerns the patient's wants. In most cases he prefers, for example, a physician to a nurse. However, it must be kept in mind that in no other area can the consumer, who uses the services, be influenced by the 'producer', who delivers them, as much as in medicine.

It has become apparent from the experience of developing nations that locally trained semi-skilled paraprofessionals can be very effective within their native populations in delivering modern medicine, especially where preventive care is concerned. This implies that not only the technically qualitative aspects of medical care must be considered vis-à-vis the level of skill employed, but also the various critical aspects of utilization by the target population.

The second short-run issue, concerning the efficient allocation of labour, involves wage and employment policies that in many instances may be controlled by physicians. We observe, at times, people, for example nurses, having a few years of training, who are either excluded altogether from the labour force, are employed in other occupations, or work only part-time in their medically orientated professions. We estimate that only about one half of the trained nurses of working age in Israel are engaged in nursing, because of the working conditions, particularly shift work, and wages that do not compensate for the cost of child care, etc. In one African country, nurses, who are desperately needed, quit their profession because they have to part with their husbands and families when assigned to work in remote areas.

Such phenomena are clearly due to wage and employment policies, which must be evaluated on efficiency grounds. The question is whether raising wages and improving employment conditions is the most economic option for attracting needed and available, but voluntarily unemployed, 'skills'. The other options are: a) having more expensive personnel substituting in particular tasks for those who are excluded from the labour force; b) having less expensive substitutes, but of lower quality; and c) training more personnel. Each option involves clear costs, which in most cases can be easily assessed and compared with the costs of changing employment and wage policies.

This short-run economic approach to the issues involved in the allocation of manpower at given market prices demands managerial leadership and skill on the part of physicians, particularly in small settings. In large ones, specialists in economics and management should be called upon. This leadership involves identifying tasks and medical activities where substitution can save resources, allocating some practice time to economic considerations, and overcoming various mental and other barriers involved in the delegation of responsibilities from physicians to other personnel with lesser medical training.

Labour Allocation and Training in the Long Run

The availability of skilled labour, in what economists define as the long run, is a matter of training, whereby the stock of particular skills can be changed over time. Another possibility for changing the availability of medical skill is through migration; this possibility will not be considered here, because international migration is less subject to local policy than is training.

The training of personnel must respond to two needs : the first arising from an increasing demand for medical services, and the second arising from changes in technology and/or capital investment.

Investment in training must be guided by considerations of efficiency. Assuming that both technology and the availability of capital (i.e., hospital beds, equipment, etc.) are fixed,

training of more personnel with specific skills must be assessed <u>via-à-vis</u> other options such as, mobilizing trained but unemployed manpower. The decision to train must mean that the cost of training a given number of people, who will eventually remain in the labour force, is lower than the cost of attracting already trained and qualified people who are out of the labour force for one reason or another.

Training, however, should always be part of a realistic overall development and manpower strategy. Such a strategy may also include investment in buildings and equipment, partly to substitute for manpower, as well as the adoption of new technologies which require new skills.

Population growth and improved standards of living signify growth and expansion of medical services, even without new technologies. Expansion can be regarded - in the absence of any technological innovations - as the multiplication of a given system, as opposed to expansion through increments in a particular input, say, just personnel, without increasing other factors (rooms, beds, equipments, etc.). A multiplication of a system is called for, when it would be more economical than the expansion of that system through only particular inputs. Growth by increasing manpower is required when a lack of particular skills imposes a bottleneck in a system. This is commonplace, particularly in developing economies, because acquiring new equipment which embodies new technology has become relatively easier than acquiring the needed manpower.

However, beyond a certain point, expansion through personnel becomes inefficient because of the diminishing returns (associated with crowding, etc.) from additional labour. Hence, labour costs and productivity must be regularly assessed and monitored, especially when considering additional investments in a particular system. This monitoring is required because investment is only justified when the resulting increase in productivity matches or exceeds the increase in costs.

A change in technology is regarded as a change in the nature of the system and way it delivers a particular service. Technological changes have manpower implications, either because new technologies save manpower or require manpower with new skills. The availability and training of manpower for use in new technologies in medicine is a major bottleneck for adopting such technologies, especially in developing countries. Consequently, although

tempting, the introduction of a new technology in the absence of the appropriate skills is an uneconomic proposition. However, it is often done because of the 'promise' associated with new and sophisticated equipment. It must be remembered that, unless justified on economic grounds such as increased efficiency or training, new equipment and big hospitals can become 'white elephants' or serve only a minority group.

A further difficulty with new technologies is that they are often orientated towards solving problems, including manpower problems, of developed economies. Many technological innovations in medicine are based on manpower considerations that do not apply to developing economies. Much thought must be given to the advancement of technologies that will substitute for scarce medical skill in developing countries.

Conclusion

It is clear that manpower allocation is a critical element in gaining efficiency in medical care. It is a constant activity which, in the long run, should be based on a set of realistic objectives and on an overall development strategy and plan, involving training objectives. Planning must not be vague. At the same time, it should not be a strait-jacket. Medical objectives and particularly technologies may change unpredictably, and a system must be sufficiently flexible and prepared to cope with changing circumstances. As far as manpower is concerned, this means very broad and general training in schools to provide for enough flexibility in practice, should a change be needed. Moreover it implies emphasis on training on the job and in the community. This type of training also has other merits: it saves costs, as trainees often substitute for regular personnel, and it probably brings about better and more efficient community-oriented medical practitioners.

References

- Klarman, H.E. et al. Cost effectiveness analysis applied to the treatment of chronic renal diseases. <u>Med. Care, 6</u>: 48-54 (1968).
- (2) Tei Wei Hu, ed. <u>International health costs and expenditures</u>. Washington, DC, Department of Health, Education, and Welfare (publication No. (NIH) 76-1067).

96

Résumé:

Des progrès techniques énormes mais coûteux ont été réalisés en médecine, mais ils sont en voie de distancer rapidement notre bonne volonté et nos possibilités de financement. L'éthique médicale qui veut que la vie soit sauvée 'à n'importe quel prix' est de plus en plus remise en question. Le personnel est, de loin, le besoin majeur et la dépense la plus importante dans l'expansion des services de santé et doit par conséquent jouer un rôle vital dans les efforts déployés pour améliorer l'efficience.

Les besoins en matière de santé peuvent se définir indépendamment des moyens propres à les couvrir, mais des objectifs irréalistes peuvent tout simplement concentrer des services sur une minorité privilégiée aux dépens de la majorité, dans un compromis entre qualité et quantité. Le précepte fondamental socio-économique consiste à se fixer des objectifs propres à optimiser les avantages sociaux, et des méthodes visant à atteindre ces objectifs au moindre coût. Les problèmes analytiques de base consistent à ce stade à mesurer la santé et les avantages résultant des soins médico-sanitaires, et dans ce cas on fait souvent appel à une analyse coût-efficacité moins difficile qu'une analyse coûtbénéfice. Cela implique le choix des symptômes traitables par rapport à un objectif donné, des traitement appropriés, et du moyen le moins coûteux d'appliquer ces traitements. L'efficacité doit être considérée en fonction de trois composantes : technicobiomédicale, économique et comportementale.

L'efficience économique de l'affectation du personnel est un point crucial dans les services de santé. Les ressources en personnel qualifié sont déterminées à court terme et l'efficience économique ne peut être réalisée que par une meilleure adaptation des compétences aux tâches, dans une grande mesure en déléguant des tâches au personnel subordonné tel que le staff paramédical et autre personnel moins coûteux. Le personnel paramédical ayant une formation simple est efficace et acceptable dans les pays en développement, et les taux élevés de médecins et de dépenses aux Etats-Unis n'ont pas entraîné une amélioration proportionnée de la santé. Il est également important que les rémunérations et conditions de travail encouragent la main-d'oeuvre qualifiée disponible à participer pleinement, par exemple par des facilités accordées aux infirmières mariées. Cette option doit être comparée à d'autres dans l'affectation du personnel nécessaire, par exemple la substitution d'un personnel plus coûteux (avant

reçu une formation plus poussée) ou moins coûteux (mais de qualité inférieure), la formation de remplaçants pour le personnel qui quitte son emploi, ou la substitution de méthodes de production moins dépendantes de la main-d'oeuvre.

A long terme, on peut former du personnel nouveau, mais il s'agit effectivement d'un investissement clé qui, en tant que tel, devrait toujours faire partie d'une stratégie d'emploi et s'intégrer dans le plan général de développement des autres ressources et technologies, et des services. De nombreuses technologies de pointe sont orientées vers des problèmes de pays développés et les technologies capables de se substituer à des compétences médicales, rares dans les pays en développement, nécessitent une attention particulière.

Tout en étant spécifique, la planification doit être souple pour permettre l'intégration d'objectifs nouveaux et de techniques nouvelles. Cela signifie que la formation doit être large et flexible afin de s'adapter aux changements, et qu'elle doit être plus étroitement liée à la tâche à remplir et à la communauté servie. TECHNOLOGICAL IMPERATIVES AND ECONOMIC EFFICIENCY IN HEALTH CARE

B.M. Kleczkowski

Introduction

Modern medicine is often pictured in the public's mind as a stunning breakthrough - a result of miraculous interventions of men and machines ⁽⁹⁾. Many impressive developments in life-saving and life-prolonging technologies, often referred to as the 'technological revolution' in medicine, have evidently fostered this image. Fascination with modern medical technology has led to increasing pressures by various social groups, including the medical professions and health policy-makers, for new developments and the widespread diffusion of more and more sophisticated technologies. These pressures reflect a continuing ellegiance to technological imperatives, even in cost-conscious environments.

In recent years, however, 'technology's reign as the primary, shaper of medical progress' (17) has been strongly challenged. A review of the literature now reveals a far greater concern with the adversities of modern medical technology than with the benefits. The root of this shift in attitude is, not surprisingly, the recognition that the diffusion of sophisticated technology throughout health care systems, and particularly in hospitals, constitutes the primary reason for rapidly rising medical care costs. As more and more national resources are committed to financing health care, there is more and more questioning of technology's impact, not only in terms of the drain on financial resources but also in terms of its outcome on the nations' health status and the possible risks to patients and societies.

Thus, although originally considered as an unequivocal blessing, the 'technological revolution' in medicine has now become a controversial issue. The arguments voiced by different observers regarding this issue indicate the diversity of perspectives on the 'technology problem'. The major perspectives are not inherently incompatible but they do reflect a tension that pervades the debate over the possible effects of an increasing economic discipline on the further development and use of modern medical technology. Supporters of technological imperatives argue that the increasing pressure of cost containment policies will retard the development of new medical technologies. Proponents of a stronger economic discipline generally believe that present health care systems foster excessive use of sophisticated medical technologies. Therefore, they argue for increased economic discipline in the hope that reasonable cost containment policies will direct the allocation of health resources more efficiently, producing more cost-effective technologies and reducing the waste which they perceive to be associated with most of the current medical technologies (19).

The purpose of this paper is essentially twofold: firstly to provide a context within which the main issues arising from the present interference of technological imperatives with economic efficiency can be discussed and settled; and, secondly, to suggest some perspectives for assessing the desirability of alterations in the status quo.

The 'Technology Problem'

Some authors suggest that the 'technology problem' is simply a reflection of the fundamental dilemma of many contemporary health care systems: how to provide accessible quality care to all in need and at the same time restrain inflation in the cost of providing care (19). Some other observers argue that there is no such thing as the technology problem. In fact, there is a long and multifaceted set of complex problems with competing and conflicting perspectives, priorities, and parties of interest (8). The many facets include concern lest new equipment and procedures move into health care systems before they have actually been proved useful or their risks have become known; that technologies that are useful are maldistributed and used for inappropriate indications; that societies cannot afford extraordinary technologies for a few individuals in lieu of technologies for many; that the impact of technology on the cost of health care is not adequately understood and considered; that the incentives for adopting and using new technologies are inappropriate; and that, in general, no organized efforts exist for the development of useful information with which to make reasonable decisions on the choice and use of modern health technology. To make the point clear, it must be emphasized that the present worldwide discussions on the above-listed issues do not attempt to diminish the importance of technological advances in medicine. However, they do explicitly question the current logic and practicality of the application of modern technology throughout health care systems.

One of the first and most striking critiques of the widespread distribution and uncritical use of some medical technologies was offered by Cochrane almost a decade ago (5). Since then, many doubts have been expressed about the value of specific forms of preventive, curative, and restorative interventions, and about the
efficacy of particular tests and treatments. What exact evidence is there that a particular drug or operation is useful for the purposes for which it is advocated, rather than harmful or useless ? How does it compare with measures it is designed to replace or even with doing nothing ? A series of objective studies, based on randomized, controlled trials and other scientific methods of evaluation (18), have suggested that expenditure on the application of such celebrated medical technologies as intensive care, radiotherapy, and open-heart surgery has in fact reached the point where the net gains are small, or nil, or even negative in some cases. Owing to lack of evidence of their effect in improving patients' chances of survival, some of the approaches used in these interventions have recently been discouraged.

An attempt at 'demystifying' some of the mechanisms leading to the maldistribution and inappropriate use of medical technologies was initiated in the mid-1970s by Mahler (13), who drew attention to the increasing disparity between the tendency to expand health care coverage, often to universal access, and the restrictive application of high technologies to specialized curative services. Experience shows that attempts at widening the base of a health care system, without an appropriate redistribution of medical technology, do not necessarily result in the flattening of the health expenditure 'Its peak is still rising higher, but this time it is pyramid. a peak of expenditure directed towards the few, selected not so much by social class or wealth but by medical technology itself.' This movement towards the 'upgrading' of health care interventions to higher and higher levels of the medical establishment is seen as leading not only to an increase in costs with few measurable health advantages, but also to a downgrading in the social status of health workers at the bottom of the professional pyramid and to undesirable public reactions such as the recent increase in some countries of malpractice litigation.

The trend towards 'restricted high technology' evidently leads to a disequilibrium in the type and distribution of services provided, with too much emphasis on acute institutional care and too little on more essential care for large segments of the population. In more affluent countries such a disequilibrium is 'compensated' to some extent by the rising cost of health care. However, in countries with more limited resources (and these constitute an absolute majority in the developing world), it obstructs the development of priority health services, thus possibly contributing to a deterioration in the population's health (LO).

Although understanding of the impact of new medical technologies on the cost of care has improved to some extent, there is still no evidence that this has had any widespread effect on health decision-making. Even a crude distinction such as that between 'substitute' and 'add-on' technologies seems to be of importance in medicine (3). Whereas technological modernization in industry usually has the effect of reducing manpower and production costs, many - if not most - of the new technologies in the health field cause an increase in capital and labour costs. In part, this situation reflects a shift away from technologies that were relatively equipment-free, in which costs were incurred primarily in research, development and marketing efforts (as, for example, with drugs), towards technologies that are equipment-intensive and in which costs are also incurred through the requirement to hospitalize patients. A similar distinction is being made between 'half-way' and fundamental technological advances. The former may be represented by the 'iron lung', a medical device for managing patients afflicted with poliomyelitis, which only slightly modified this specific health problem (increasing chances of survival in some cases); the latter are well exemplified by the poliomyelitis vaccines which enabled the effective epidemiological control of the disease. An increasing awareness of the opportunity cost of resources devoted to 'half-way' health technologies is poignantly illustrated in some recent publications (20). More attention is also being paid to the utility of technology. The fact that a new test can be performed by a labour-saving, automated machine, with a reduction in unit cost, is not a sufficient reason for introducing it and thus increasing the number of tests performed, unless it can also be shown that useful treatment (at a reasonable cost) can be provided for those tested and found positive. On this basis, for instance, the widespread application of automated multiphasic screening technology has recently been discouraged.

The economic environment of current health care systems provides some incentives and few discouragements to the adoption of the latest technology. Beginning with the subsidization of research and technology, the government and other third-party payers (.e.g., health insurance schemes) provide relatively unconstrained conditions for 'buyers' and 'users of health technologies. The situation described above is further perpetuated by various pressures resulting, for instance, from: marketing campaigns, supported by producers and sellers of modern medical equipment; high public expectations concerning specialized medical care; the prevailing professional image of 'quality' medical care (in terms of 'medical

centres of excellence'); and even competitive aspirations for prestige (a medical version of 'keeping up with the Joneses'), which often lead to overinvestment in costly and misused medical care facilities ⁽¹⁰⁾.

Increasing Concern for Efficiency

In many areas of social life, policy and action still continue to be improvised on the basis of prevailing beliefs rather than an informed appraisal of issues and alternatives. If this is true for public policy in general, it is certainly true for health policy in particular. The health field has such an aura of lifesaving that realistic thinking about money and resource implications is often prohibited. However, the amount of money and other resources available for health care is not unlimited, even in the most affluent countries. Health services must compete heavily with other public demands for their share of national resources. Though initially slow to materialize, the recognition of this dilemma is becoming more widespread, to a point at which governments are beginning to engage in a systematic reexamination of the growth, effectiveness, and efficiency of health care systems.

Part of the recent reconsideration of health care developments, aiming at a reasonable balance between the quality of care and its cost, has involved attempts to improve decision-making relating to the choice, distribution, and use of modern medical technologies. This implies that the range of factors influencing the relationship between technological progress and its costs must be better known to those responsible for health policy and day-to-day medical decision-making. Until now, the requisite knowledge has not been made widely available, because of 'scientific mystification' or lack of interest among its potential users. However, it is becoming more widely recognized that health authorities should provide all parties involved, including the medical profession and the public at large, with reliable information on the value and limitations of various medical technologies, and on the rationale for various types of health service, so as to create an informed opinion that will encourage the realistic formulation of national health programmes (14).

It is now more and more widely accepted that any new development in health services should be checked in advance against a set of rational parameters. First of all, the health service has to be efficacious, i.e., capable of producing a desired effect. The efficacy of a service depends on the technology employed, and its determination is essentially the task of basic research. Research has to demonstrate, for instance, whether a new vaccine really does prevent a disease; whether a test increases the probability of correct diagnosis; and whether an operation or any other specific treatment prolongs the life expectancy of a patient. When taken into routine use, a service of proven efficacy does not always achieve its full potential impact because of organizational, situational, and similar factors. As a consequence, the effectiveness of a service has to be ascertained. Effectiveness is defined as the relation of the actual impact to the potential impact of health services in an operating system. If a particular form of health intervention secures no improvement in mortality and fails to reduce disease, disability, or discomfort, there is little need to search for its secondary economic effects. However, effective services can be prohibitively costly. Hence, the next step should consist in determining the efficiency of health services, which means the relation between their actual impact and their production cost. The demonstration of effectiveness and efficiency is the task of evaluation, which should constitute an integral part of health management. A policy decision on the combination of health services to be produced, and their distribution according to the needs of the population, should ideally not be made until the above methodological steps have been taken (H. Vuori, unpublished observations, 1979). In practice, however, there is room for much improvement in this respect.

In considering the practical ways in which the efficiency of health care can be improved, emphasis is being placed on achieving a proper allocation of resources ('allocative efficiency') and on increasing the output, or decreasing the costs of production, of health services ('operational efficiency'). In a broader sense, allocative efficiency relates to a society as a whole, thus providing a crucial measure of the adequacy of investment in the health sector. The relationship between demand and supply varies among health care systems, but whether the market, the government, or some other parties perform the distributive function, allocative efficiency in health care is approximated when its costs and benefits are weighed against the sum of the society's wants. Whereas overresponsiveness on the part of the health services to demand would prevent the achievement of allocative efficiency by increasing social expenditure for their expansion at the expense of other national sectors, underresponsiveness would lead to insufficiencies by depriving the society of needed services (2). The narrower meaning of allocative efficiency concerns the balance of resource distribution within the health sector itself. debate over allocative efficiency is thus really a debate about

how much of its total resources a nation wants to devote to health care rather than to other goods and services, and how to distribute the amount available within the health sector itself.

Technology is not exempt from this debate. Ideally, choices should be based on gains to be made from further investment in each broad area of the economy (assuming that any cost-benefit analysis includes both monetary and non-monetary, both tangible and nontangible values). Within health care, decisions on resource allocation should be based on the gains to be expected from different kinds of care - the introduction or expansion of one technology weighed against the introduction and expansion of another.

Whilst allocative efficiency is mostly oriented towards rationalization of objectives and priority-setting for health programmes, <u>operational efficiency</u> involves searching for the least costly ways to deliver various services and achieve defined results, by either increasing the output or decreasing resource consumption. It is based on cost-effectiveness analysis and appears to be most useful in identifying low-cost substitutions for various health technologies.

No one can argue that the above methodological indications are uniformly, widely, and systematically applied at present. There are still obvious gaps in concepts, methods, and information. However, the fact that it is not yet possible to do what is theoretically desirable does not mean that judgements cannot be made about relative priorities on the basis of the information now available, and with the statistical and accounting tools that can currently be deployed. What is important is that an effort be made to ensure that the allocation of resources in the health services is a conscious choice of the 'best value for money' possible, even if it has to be based on less than perfect information (1). An increasing number of comprehensive studies on various economic aspects of medical technologies have been performed in recent years, summarizing current knowledge concerning particular services (for instance, multiphasic health testing, (6), the range of technologies applied in particular medical disciplines (for instance, in surgery, ⁽⁴⁾, or even a set of priority programmes within the whole national health care system (12).

Increasing concern for economic efficiency and the pressing need for the control of the 'almost unlimited possibility for the escalation of medical demand and increased medical expenditure'

have recently been reflected in the increasing preoccupation of both scientists and policy-makers with the idea of rationing health care. According to Mechanic (15), the rationing of health care is a process of control over both the kind and the quantity of health services supplied, varying in different countries from 'rationing by fee', through 'implicit rationing', to 'explicit rationing'. Since it is now generally accepted that 'rationing by fee' (or a 'free market' approach to health services distribution) is inappropriate in relation to health care, its relative importance is likely to be diminishing. However, the appearance of various forms of national health schemes leads to 'implicit rationing'. It is argued that, because medical technology has moved too rapidly ahead of the amount that can be afforded out of the total financial commitments of national budgets, there is a need to control the total growth of health services by setting limits on total expenditure for health care. Subsequently, expanded control over health resources turns to 'explicit rationing' which is 'not only to set limits on total expenditure for care, but also to develop mechanisms for arriving at more rational decisions as to relative investments in different areas of care, varying types of facilities and manpower, new technological initiatives, and the establishment of certain minimal uniform standards'. The end product of such 'explicit rationing' is likely to be 'bureaucratic medicine, governed by political decisions'. Not surprisingly such a conclusion arouses fear and defensive reactions in some medical circles. It is being argued that in drifting from what has been called 'rationing by fee', through 'implicit rationing', to 'explicit rationing', the individual doctor would tend to pass from the phase of being a clinical 'entrepreneur', through one of being an 'expert' in apportioning scarce resources, to end up as an 'economizer', controlling the resources made available to his patient through a central authority (16).

In looking for more favourable perspectives, increasing attention has again been drawn to Cochrane's suggestion that the problem of scarce health resources could be alleviated in a process which he called 'rationing by science' ⁽⁵⁾. This was based on the observation that, when subjected to scientific evaluation, a substantial proportion of medical care appeared to be ineffective and hence unnecessary. 'It could be, therefore, hoped that by scientific control of inflation in the 'cure' sector, enough money will be made available to deal with other black spots in the national health system, such as population control or the economic inequity between the 'cure' and 'care' sectors' ⁽⁵⁾. To a large

extent the question of 'rationing by science' brings into the open two essentially conflicting attitudes in medicine. 'On the one hand there are those medical scientists and epidemiologists who want specific proof of efficacy before a medical or surgical procedure is introduced; on the other hand there are the more permissive practising doctors who have always been reluctant to admit to their patient that medical science has nothing to offer in their case.' (16)

The Emerging Concept of Appropriate Technology

'Appropriate technology' is a concept which now plays an increasingly important role in international discussions on technology and development. For working purposes, appropriate technology has been broadly defined as 'that technology which is relevant to a given techno-socio-economic framework at a given point of time; it is that technology which contributes the most to the social and economic aspects of development' (7). The concept of 'appropriate technology for health' has been developed in parallel by the World Health Organization and its Member States ⁽²¹⁾. It is based on the assumption that, in meeting health needs, technology must be geared both to the problems to be solved and to local conditions, i.e., it should be scientifically sound, acceptable to those who apply it and to those for whom it is used, and affordable to the nation. This implies that health technology should be in keeping with local culture and with the kind and quantity of resources available. A critical review of the methods, techniques, equipment, and drugs used at all levels of national health systems must accordingly be carried out with the aim of using only those technologies that have proved their worth (this applies also to some components of traditional medicine), are really needed, and can be afforded. Although it has arisen from awareness of the needs of developing countries and the unhappy consequences of the uncritical transfer of health technologies from one country to another, without paying sufficient attention to the differences in technical and socioeconomic conditions, the concept of appropriate technology for health is of much broader application. The proposed definition of 'appropriateness' underlines the relative value of technology: the only 'constant' requirement is efficacy while practical effectiveness and efficiency will depend to a large extent on the socioeconomic conditions. There is, therefore, no such thing as a preselected list of appropriate technologies; choices of technology can only be appropriate in a given political, economic, and social context.

Regarding technology as a comprehensive notion - including, besides physical tools (often called techniques), non-material components such as technical 'know-how' (knowledge and skills), organization of work (procedures), and management - the concept of appropriate technology stresses the fact that the choice of technology is not only a matter of conscious policy-making by relevant 'actors' but is, to a large extent, structurally determined by the pattern of production, which will certainly vary between open-market and centrally planned systems, or between developed and developing countries. For instance, in openmarket systems, decisions over the choice of technology are to a large extent made by many separate units at the 'micro' level and are based on their own structurally determined, profit-making interests, which do not necessarily coincide with the interests of the great majority of the population. Contrary to this, in centrally planned systems there is a greater ability to mobilize and coordinate resources in a conscious manner, combined with a more equitable distribution of goods and services. Planned systems are therefore more efficient in implementing comprehensive development efforts when the technologies are known and relatively constant. On the other hand, when it comes to experimentation with new technologies, the hierarchical structure of the planning system can be less flexible in responding to rapid progress (7).

The process of technological change may be conceived as a sequence of successive stages, i.e., invention, innovation, diffusion (including transfer), choice, and implementation. Often a technology is 'carried' by different actors through different stages of technological change as a whole. For example: invention by a research institute, innovation by a manufacturer, diffusion by a seller, choice by a policy-maker, and implementation by a service provider. Therefore the relations between all those 'social carriers of technology' ⁽⁷⁾ are very important. And, if even one link in the process is missing, the change does not take place at all. In most cases it is the last link in the chain that is missing. The technology is there, but the actual social carrier for its implementation is not available.

For a technology to be chosen and implemented in a specific socioeconomic context, some additional conditions must be also fulfilled, e.g., there must be a social carrier with an interest in choosing and implementing the technology; this unit must have information about and access to the technology in question; and it must have the necessary social, economic, and political power to decide upon the acquisition and implementation of the technology chosen. The question of power is often crucial.

Prospects

Upon careful study, one cannot resist the impression that the current controversy between 'technological imperatives' and 'economic efficiency' arises more from the lack of communication between the main professional groups concerned rather than from any inherent conflict in these two approaches. The medical profession has been trained to pursue the 'technological imperative', to use any intervention possible, regardless of cost, if there is any possibility of medical gain. This 'technological imperative', when carried to its extreme, entails fantastic expense and can have a counterproductive outcome. Moreover, the process of technological innovation and its concomitant controversies have traditionally been an internal matter for professional organizations. This background, together with the longcultivated moral canons of the medical profession, appears to be insufficient in times when the technical and economic implications of medical decisions go far beyond the simple doctor-patient relationship. Although based on good intentions, such attitudes have evidently led to the increasing dependence of medicine on high technology and a preoccupation with curative services. By demanding the highest level of inputs and disregarding the wider socioeconomic context in which the health services develop and operate. this approach has led to many suboptimal developments in health care and contributed to its rising cost (11).

The growth in the size and complexity of health services has now become a serious economic problem, even in relatively affluent societies. The magnitude of health care expenditure and the importance of health in contemporary societies more than justify careful examination of the ways in which resources are allocated, organized, and used. On the whole, the widespread scrutiny of this area by economists has been necessary and salubrious. However, it is rightly argued that cost containment and the pursuit of economic efficiency that has inspired it have tended to become ideologies in themselves. In extreme instances, they are uncritically accepted as self-justifying rules for a wide variety of policies and actions in health care, often with inadequate attention to their technological implications.

In view of the above facts and their undesirable implications for health care development, every effort to avoid the further polarization of the two approaches seems justified. Some prospects in this respect can be marked for further discussion. First of all, there is an evident need to develop a positive dialogue between all the professional groups and 'social carriers of technology'

concerned. To do this, more systematized <u>technical information</u> on factors and rules guiding technological progress in the health care field will be urgently required. In this respect, the identification of a unifying doctrine seems highly desirable. Potential 'crystallization points' for such a doctrine are likely to be found in an elaborated concept of 'appropriate technology for health'. On the pragmatic side of the problem, the concept of a reasonable rationing, supported by the increasing role of 'rationing by science', is likely to lead to rational solutions. If such a framework is accepted, more systematic and comprehensive research on medical technology should be developed in order to provide a more rational basis for decision-making in this sensitive field. In both the development of relevant technical information and the stimulation of relevant research, the role of professional organizations concerned cannot be overestimated.

References

- Abel-Smith, B. <u>Value for money in health services: a</u> comparative study. London, Heinemann, 1976.
- (2) Babson, J. H. <u>Health care delivery systems a multinational</u> survey. Bath, Pitman Press, 1972.
- (3) Bennet, I. L. Technology as a shaping force. In: Knowles, J. H., ed. <u>Doing better and feeling worse</u>. New York, Norton, 1977.
- (4) Bunker, J. P. et al., ed. <u>Costs, risks, and benefits in</u> surgery. New York, Oxford University Press, 1977.
- (5) Cochrane, A. L. <u>Effectiveness and efficiency random</u> reflections on health services. London, Nuffield Provincial Hospital Trust, 1971.
- (6) Collen, M. F., ed. <u>Multiphasic health testing services</u>. New York and London, Villey, 1978.
- (7) Edquist, C. & Edquist, O. <u>Social carriers of techniques for</u> <u>development</u>. Stockholm, Swedish Agency for Research Cooperation with Developing Countries, 1979.
- (8) Fritz, L. R. Technology: future challenge is information gathering and coordination. <u>Hospitals</u>, <u>53</u> (1): 181-184 (1979).

- (9) Iglehart, J. K. Looking ahead at the technology. Hospitals, 53 (11): 88-90 (1979).
- (10) Kleczkowski, B. M. et al. Some reflections on containing the rising costs of medical care under social security. Soc. Sci. Med., 13C: 21-32 (1979).
- (11) Kleczkowski, B. M. Cost containment and quality of care some new dimensions of an old issue. Paper presented to the Twenty-first International Hospital Congress, Oslo, June 1979. WHO Chronicle (in press).
- (12) Lalonde, M. <u>A new perspective on health of Canadians</u>. Ottawa, Department of National Health and Welfare.
- (13) Mahler, H. Health a demystification of medical technology. Lancet, Vol. 2, 829-833 (1975).
- (14) Mahler, H. Problems of medical affluence. <u>WHO Chronicle</u>, 31: 8-13 (1977).
- (15) Mechanic, D. The growth of medical technology and bureaucracy: implications for medical care. <u>Milbank Mem.</u> Fund Q., <u>55</u>: 61 (1977).
- (16) Office of Health Economics. Scarce resources in health care. Milbank Mem. Fund Q., 57 (2): 265-287 (1979).
- (17) Phillips, D. F. Technology: the honeymoon is over. Hospitals, 52 (1): 159-163 (1978).
- (18) Russell, L. B. How much does medical technology cost? Bull. N.Y. Acad. Med., 54 (1): 124-131 (1978).
- (19) Warner, K.E. Effects of hospital cost containment on the development and use of medical technology. <u>Milbank Mem.</u> <u>Fund Q., 56</u> (2): 187-211 (1978).
- (20) White, K. L. et al. <u>Health services: concepts and informa-</u> tion for national planning and management. Geneva, World Health Organization, 1977 (Public Health Papers, No. 67).
- (21) World Health Organization. <u>Science and technology for health</u> promotion in developing countries. Geneva, 1979.

Résumé:

L'image de la médecine moderne en tant que succession de découvertes étourdissantes a accru les pressions pour l'adoption et de la diffusion de nouvelles technologies sans préoccupation des coûts. Récemment, cet impératif technologique a été fortement contesté : ses adversaires prétendent que ses avantages ne sont pas proportionnés à l'escalade des coûts et qu'une plus grande discipline économique contribue à une réduction du gaspillage et à une amélioration du rapport coût-efficacité. Les partisans de la technologie affirment qu'une discipline trop vigoureuse est propre à ralentir le progrès.

Certains auteurs font du problème technologique un dilemme entre quantité et qualité, étant donné les ressources limitées. D'autres le considèrent comme un ensemble complexe d'options technologiques concurrentes, dans lequel des procédures de décisions inadéquates ont entraîné l'application généralisée d'une technologie coûteuse sans évaluation adéquate, et des stimulants impropres ont abouti à une mauvaise distribution et au gaspillage. De nombreuses évaluations ont démontré les avantages faibles ou même négatifs de technologies même largement reconnues, telles que soins intensifs et radiothérapie. L'expansion d'une technologie sophistiquée et spécialisée concentre à la fois plus de ressources sur moins de gens et élargit le fossé entre le sommet et la base de la pyramide des services. Alors que dans l'industrie, les technologies nouvelles se substituent généralement aux anciennes et réduisent les coûts de main-d'oeuvre et de production, dans le secteur de la santé, elles viennent généralement 'en supplément' et augmentent plutôt qu'elles diminuent les coûts. Cependant, l'augmentation des coûts a concentré de plus en plus l'attention sur l'utilité de la technologie, comme les auto-analyseurs à plusieurs canaux, et sur des innovation structurelles, telles que les programmes d'examen à phases multiples. Néanmoins, le financement des services de santé et de recherche médicale par les Etats et autres tiers payants a tendance à éloigner les acheteurs et utilisateurs de services des considérations financières. En même temps, les pressions exercées par les producteurs, les souhaits du public et des professions médicales aboutissent à un surinvestissement et à une utilisation erronée des nouvelles technologies coûteuses.

Le souci d'efficience et d'efficacité a souligné le besoin de fournir des informations suffisantes sur la valeur et les limites de diverses technologies, dans le but de formuler des politiques

plus rationnelles. Cette approche nécessite des recherches visant à déterminer l'efficacité technique des technologies nouvelles, et une évaluation de leur efficacité et efficience pratiques au sein du système de prestations de soins médicosanitaires. L'efficience nécessite l'efficience 'allocative' au stade de la répartition des ressources au sein du secteur de la santé et entre celui-ci et les autres secteurs, ainsi que l'efficience opérationnelle pour assurer une productivité maximale. Bien que cette démarche ne soit pas encore systématiquement suivie, elle est actuellement largement exploitée et utilisée. Etant donné que les possibilités et exigences techniques se sont développées à des niveaux quasiment illimités. le marché joue un rôle de moins en moins important et les mécanismes implicites du rationnement sont devenus explicites. On a prétendu que ceux-ci sont susceptibles d'aboutir à une médecine bureaucratique - régie par des décisions politiques dans laquelle les médecins, devenus entrepreneurs cliniques, finiraient par n'être que des faiseurs d'économies, contrôlant l'utilisation par les patients de ressources centralisées. Une approche plus optimiste se traduit par la formule 'rationnement par la science'; il s'agit essentiellement de l'évaluation de procédures de soins médicaux, de l'élimination des procédures inefficaces et de la redistribution des ressources ainsi économisées à d'autres utilisations plus productives.

La notion de technologie appropriée a pris une importance croissante, 'cette technologie qui s'applique à un cadre technosocio-économique donné à un moment donné'. La technologie doit être utilisée en fonction des problèmes à résoudre; elle doit être scientifiquement valable, acceptable à la fois par les fournisseurs et par les utilisateurs, et praticable dans la limite des contraintes imposées par les ressources. Cette notion implique l'évaluation critique des méthodes, techniques, matériels et médicaments, à tous les échelons des systèmes nationaux de santé, en vue de n'utiliser que les moyens nécessaires, efficaces et efficients dans les conditions locales. En tant que notion exhaustive, la technologie englobe des moyens physiques, des connaissances et des compétences, des procédures et la gestion. Les choix technologiques dépendent de la structure du système de production, aussi bien que de l'élaboration de la politique, et varient entre les systèmes de marché libre et à planification centralisée, et entre les pays développés et en développement. Les systèmes à planification centralisée parviennent à une

meilleure efficacité dans l'affectation de leurs ressources, avec des technologies connues, relativement constantes, mais leur structure hiérarchique empêche une réaction souple à tout progrès rapide. Les cinq étapes du changement technologique nécessitent toutes des 'porteurs sociaux' efficaces qui peuvent varier pour chaque étape; par exemple, découverte par un institut de recherche, innovation et diffusion par un fabricant, choix par un responsable de la politique et réalisation par un fournisseur de services.

Il semble que la polémique qui s'est installée entre 'les impératifs technologiques' et 'l'efficience économique' soit due au manque de communication entre les groupes professionels concernés plutôt qu'à un conflit inhérent. En outre, les implications techniques et économiques des innovations et des décisions médicales entraînent de larges implications d'ordre socio-économique trop souvent ignorées par des décideurs à l'esprit étroitement médical. Toutefois, le contrôle des coûts et l'efficience économique ne devraient pas devenir une idéologie en soi qu'on poursuivrait sans tenir compte des implications technologiques. L'intégration de l'approche 'technique' et 'économique' au développement technologique nécessite par conséquent une communication adéquate entre les groupes professionels et tous les 'porteurs sociaux de la technologie', et une doctrine d'unifaction qui pourrait être le résultat d'une notion élaborée de 'technologie appropriée à la santé'. Dans la pratique, tous ceux-ci pourraient être stimulés par un appel croissant au 'rationnement par la science' dans l'affectation des ressources de santé, et par la participation active des organisations scientifiques et professionelles.

PHARMACEUTICALS IN THE HEALTH SERVICES : COSTS AND BENEFITS

G. Teeling-Smith

When I was an undergraduate at Cambridge I was taught physics by Sir Herman Bondi, who in those days was a more or less unknown junior lecturer. He had one recurrent theme running through his lectures which he encapsulated in the dictum 'you get no money for jam'. By this, he meant that neither energy nor matter could be created out of nothing. Or, in other words, in an economic context, everything had to be paid for. The same theme will also run through this review of the costs and benefits of the pharmaceutical services.

Pharmaceutical progress and therapeutic innovation do not just happen out of nowhere. They have to be created by the use of resources that are expensive in terms of both money and manpower. And as a background to this discussion of the costs and benefits of pharmaceuticals in the health service, it is important to remember that in practical terms these resources have come almost entirely from the free enterprise, research-based pharmaceutical industry of the Western world. The American economist Schwartzman (5) estimated that, between 1950 and 1969, 88% of all new pharmaceutical chemical entities were discovered and developed by the Western Other sources, such as 'academia' or the pharmaceutical industry. State-run bureaucracies of Eastern Europe, had been responsible for little more than one-tenth of the new medicines developed in that period. It is particularly important to remember this fact when it comes to balancing the cost and the benefits of modern medicines. The Utopian concept that all the best and latest medicines should be generally available at negligible cost runs directly counter to Bondi's principle that 'you get no money for jam'.

Against that background, this brief paper deals first with the balance of cost and benefits in the economically advanced Western world, and then turns to the more difficult question of pharmaceuticals for the developing countries.

Looking first at the payoff from modern medicines in the Western world, there are four main ways in which one can assess their benefits. The first, and by far the most important, is their contribution to the well-being of mankind. There are endless examples of the way in which pharmaceutical progress has eliminated suffering and sadness over the past 30 years. The virtual elimination of deaths from childbirth fever is one; in

Britain in the 1930s this condition killed between 600 and 700 mothers each year. In 1976 there were only four such deaths there. The numbers are relatively small, but such bereavements are particularly tragic. On a much larger scale, the virtual elimination of deaths from all the major childhood infections is a similarly poignant illustration. It is estimated that in Britain a quarter of a million people alive today would have died in childhood had modern medicines been unavailable.

Secondly, one can measure the benefits of modern medicines by the savings which they produce within the health service itself. Mental illness and tuberculosis are the classic examples in this context. Again using British figures, it has been estimated that there are savings of well over flOO million a year as a result of the 90% reduction in numbers of beds occupied by tuberculosis patients since the early 1950s. For mental illness, there has been a reduction in numbers of occupied hospital beds from about 150 000 in the mid-1950s to less than 100 000 today. This reversed a previously rising trend in psychiatric bed occupancy and represents another saving to the health service of more than flOO million a year.

Thirdly, there are the savings from the reduction in the number of working days lost due to sickness. Ironically, taken overall, sickness absence has actually increased over the past 20 years in almost all Western countries. However, there is little doubt that this is because people's threshold to the acceptance of 'dis-ease' has been lowered and because they are now more able to go 'off sick' since in their employment they are generally sheltered from the economic consequences of sickness absence. However, in the case of specific illnesses such as arthritis or pneumonia, there have been major reductions in the amount of absence from work as a result of modern therapeutic progress. These reductions in absence save the State or the health insurance funds money by reducing both the amount paid in sickness absence benefits and the losses in national productivity due to illness, although the actual savings and losses are difficult to quantify, even in an advanced economy.

Finally, there are savings from the elimination of premature deaths. Tuberculosis and lobar pneumonia offer dramatic examples. In the 1930s these diseased killed many young, active adults; such deaths now occur only very rarely. The consequent change in the demographic pattern of mortality, with deaths shifting from

the younger to the older age groups, results in a real economic benefit to the community as a whole. Nevertheless, the benefits from the avoidance of premature deaths among young adults are probably best measured in terms of the reduction in suffering and grief for the families concerned, rather than purely in terms of the national economy.

Turning to the question of costs, the most important point is that pharmaceuticals are in a relatively unusual situation in health care, in that they can often produce direct financial savings in cost-benefit terms. Tuberculosis and mental illness have already been quoted as examples; in each case, the economies in hospital costs far outweigh the expenditure on the modern medicines that have made these economies possible. The treatment of ulcers with cimetidine is a more recent example of the use of a medicine eliminating the costs of hospitalization and surgery.

However, it is important to avoid falling into an economic trap because of such savings. It is quite wrong to argue - as has sometimes been done - that the price of a medicine is reasonable merely because the savings it brings are greater than its cost. It can still be 'too expensive' in economic terms - for example, when it is making monopoly profits much greater than can be justified in a properly competitive market. Indeed this is exactly the accusation that was unfairly levelled against the broad-spectrum antibiotics in the early 1960s and against the benzodiazepines in the early 1970s.

It is only since the publication of a booklet called <u>The</u> <u>Canberra Hypothesis</u> by the Office of Health Economics in London in 1975 and a subsequent rigorous economic analysis of the prescription-medicine market by Reekie (4) that it has come to be accepted that there has indeed been real and effective price competition in this field. That is, pharmaceutical firms have to price their medicines competitively in relation to the actual or potential availability of alternative treatments. Even though the doctor prescribes and either the patient or some health insurance scheme pays, there is still a price-competitive market for pharmaceuticals.

This does not, of course, mean that there is 'perfect' price competition of the type that exists in a static market for undifferentiated commodities such as steel or grain. Because the survival and growth of the pharmaceutical industry depend on its discovery of newer, better, or cheaper medicines, it has to operate under the rules of competition appropriate to an innovate and dynamic enterprise. The mechanism making this possible is, of course, the use of patents and brand names for new medicines.

The necessity for this sort of protection for the pharmaceutical innovators is underlined by the current costs of research and development. It has recently been estimated by the American economist Hansen ⁽²⁾ that the cost of producing a single new pharmaceutical chemical entity is now US\$54 million. Returning to my theme that 'you get no money for jam', such huge investments in the discovery of new medicines must obviously be paid for. The prices of the consequent innovations will be very different from the rock-bottom prices that purely imitative producers are able to charge when the originator's patent has expired.

Thus, as far as the Western world is concerned, two important facts have been established. The first is that pharmaceuticals bring very large and far-reaching benefits in both social and economic terms. These have been mentioned only briefly in this paper, but they have been extensively documented elsewhere. The second fact is that, in economic terms, the Western world appears to be paying no more than a fair price for these benefits. This is because the pharmaceutical market is governed effectively by the normal rule of price competition. There are no monopoly profits: there are only fair rewards for the companies that have put such huge resources into the search for new medicines and have been sucessful over the past three decades. Other less successful companies have been forced out of business and have disappeared by amalgamation with other, more successful competitors.

Despite the existence of effective price competition, however, pharmaceutical price controls have been introduced in many Western countries. In the light of the evidence that there is true price competition for prescription medicines, it can be argued that such controls represent an unnecessary and perhaps economically harmful interference with a properly functioning competitive market. However, once they have been introduced and have become established (the scheme in the United Kingdom dates back more than 20 years) it would perhaps be very difficult politically for a government to dismantle them.

Before leaving the discussion of the situation in the developed countries of the West, it is worth returning to the more general

argument that medicines at their current prices represent a particular cost-effective sector of health care. This point has been argued in general by the Swedish economist Stähl (7). More specific cases have been quoted by the German economist Merz (private communication, 1979). Taking only one of his examples to illustrate the general point, he quotes a study by the Battelle Institute which concluded that if all 25.6 million employees in Germany had been vaccinated against influenza in 1969-70, savings of over DM2 billion could have been made by the resultant reduction in the number of cases during the influenza epidemic. The same study calculated that for a cost of DM7.50 per vaccination there would have been a benefit of DM88.60. However, probably the most comprehensive review of all the cost-benefit studies in this field has been that conducted by the American Joglekar (3). This covers all aspects of health care, but a large proportion of his examples refer to the use of modern medicines.

In view of these indications of the cost-effectiveness of modern pharmaceuticals, when compared with other forms of therapeutic intervention, it is ironic that the expenditure on pharmaceutical services, which has always been modest, has actually been declining as a proportion of total health expenditure in the Western world over the past two decades. There are three pieces of hard evidence to support this statement.

The first comes from the USA. Table 1 shows the declining percentage of the 'health care dollar' devoted to drugs and drug sundries in the USA.

Year	Percentage
10(0	15 (
1960	15.4
1967	14.0
1969	13.3
1972	11.7
1974	10.9
1975	10.2
1976	9.7
1977	9.3
1978	9.0

Table	21.	Perc	entage	of	'health	care	dollar'	spent	on	drugs	and
drug	sun	dries,	USA,	1960	-1978.						

Source: Pharmaceutical Manufacturers Newsletter, 21 (41), (1979).

Table 2 shows a similar picture for the countries of the European Community. The figures are higher, largely because of differences in definition rather than because Europe spends more on its pharmaceutical services. The important point is that the trend is the same in both cases.

Table 2. Pharmaceutical consumption as a percentage of total health expenditure, European Community (excluding Ireland and Luxembourg), 1960-1978.

Year	Percentage
1960	24 0
1965	25.5
1970	24.0
1975	18.0
1977	16.0
1978	15.7

Source: European Federation of Pharmaceutical Industry Associations.

This European picture is confirmed by the recent study by Abel-Smith & Grandjeat (1). They state that 'In all countries in the Community for which figures are available, there is a clear downward trend in the proportion of total expenditure on health services devoted to pharmaceutical consumption. Over the period 1966 to 1975, the proportion dropped in Italy from nearly 54 per cent to 36 per cent. The figures for Belgium show a drop in percentage over the three years 1973 to 1975 from 27.3 per cent to 19.5 per cent. The fall in the percentages between 1966 and 1975 was less marked in France (29.7 per cent to 25.5 per cent), Germany (22.8 per cent to 17.6 per cent), the United Kingdom (from 18 per cent to 13.8 per cent), and Denmark (15.7 per cent to 11.1 per cent).' Again the actual percentage figures vary between different countries and between different studies, because of variations in definition. However, there is an unmistakeable overall picture of a declining proportion of expenditure being devoted to what appears to be one of the most cost-effective sectors of health care. In so far as one 'gets no money for jam', the longer-term outlook is, therefore, a

discouraging one in the Western world. Pharmaceutical innovation is becoming more expensive, yet at the same time a smaller proportion of health care resources is being devoted to the remarkably cost-effective pharmaceutical services.

Turning next to the question of pharmaceuticals for the developing countries, there are fundamentally different issues involved. First, it is generally accepted that these countries are not yet in a position to contribute substantially to the huge investments necessary for pharmaceutical innovation. This, however, is not an overriding scientific or economic consideration, because most of the newest and more sophisticated medicines are inappropriate to the needs of the developing nations, except perhaps those of the wealthy urban élite found mainly in the capital cities. For the vast majority of the rural population, it is now accepted that basic and generally well-established medicines are what is needed. These are, of course, still mainly the products of pharmaceutical innovation from the research-based multinational firms. However, being the products of an earlier generation of discoveries, they are generally now out of patent and hence subject to unbridled price competition between both innovative and non-innovative suppliers. The 'first-generation' antibiotics are typical of this situation.

Until recently, the original innovative firms still tended to keep the prices of such products relatively high in order to contribute financially to their continuing programmes of innovation. Hence the less developed countries looked for their supplies more from other non-innovative sources, such as the socialist countries of Eastern Europe, where prices need to take no account of the costs of research. Gradually, however, this situation is changing. First, the quality of the medicines from Eastern Europe has not always reached the high standards that are now essential for very potent and chemically complex medicaments. More importantly, however, many Western research-based companies have been the economic logic of supplying certain basic medicines to the developing countries at lower prices than would be economic in respect of the more affluent nations. It was recently reported that more than 40 companies had offered to cooperate with the World Health Organization in supplying over 150 different medicines at preferential prices to the poorest of the developing countries (6). This represents a logical economic policy for the companies as well as being, in practice, an act of philanthropy on the part of the research-based industry.

At the same time, the general attitude towards pharmaceutical marketing in the developing countries is changing. Complex and very delicate issues are, however, involved. In some of these countries corruption has become a way of life, and it requires strong determination for the local executives of the multinational pharmaceutical firms to stand apart from such practices. It is interesting that many American firms, in particular, have very stringent corporate ethical regulations which are usually strictly enforced in order to prohibit employees from indulging in what are often regarded locally as quite normal commercial practices. The picture of the multinational pharmaceutical firms as a corrupting influence in the developing countries is, therefore, a travesty of the actual situation.

On the question of benefits from pharmaceuticals in the less developed countries, there is no doubt that, when properly used, both vaccines and antibiotics in particular have yielded an enormous payoff. Insofar as the price of the medicines in the less developed countries is now often lower than in the developed world, and insofar as the health problems such as measles and tuberculosis are much greater, there are very much greater potential social and economic benefits in the developing countries than there are now in the more developed countries.

There are, of course, on the other hand, accusations that medicines have sometimes been inappropriately sold and used in the developing countries. There is also no doubt that this has been true in the past. However, persistent criticisms in this context over the past few years have made the multinational companies very much more aware of the need to enforce the same high standards in their marketing practices abroad as they now apply in their home markets. However, their difficulty is often to control a potentially undesirable situation which is largely created by the generally unethical standards prevailing in some of the developing countries. 'Colonialism' tends these days to be a dirty word; but it must be remembered that nineteenth-century political colonialism often brought high moral standards, just as industrial colonialism is able to do in the twentieth century.

In this context, it is worth making one final point about the use of medicines in the developing countries. It has often been suggested that vigorous marketing methods have led to overuse, and that pharmaceuticals consequently take up a disproportionate amount

of the health care budget in these countries. Certainly, investment in better sanitation and in public health policies generally can help at least as much as medicines and needs more encouragement. However, on the other hand, very advanced 'teaching hospital' technology is largely irrelevant to the health care needs of the population as a whole in the developing countries. They are undoubtedly right to spend on vaccines and preferentially priced medicines instead of hospitals.

But having said that, it is interesting to see how closely the pattern of pharmaceutical spending accords with national wealth in different parts of the world. A currently circulating discussion document from the Organization for Economic Cooperation and Development nicely underlines this fact, as Table 3 shows.

Table 3. Consumption of pharmaceuticals as a percentage of gross domestic product.

Developed countries	0.74
American developing countries	0.83
Asian developing countries	0.78
Middle East developing countries	0.42
African developing countries	0.79
Total developing countries	0.70
World total	0.73

Source: Transfer of technology in the pharmaceutical industry. 1969 (OECD Sectoral Study No. 4). Circulation restricted.

There is no evidence from this tentative table that the developing countries have been disproportionately persuaded to devote scarce resources to pharmaceuticals. Clearly, in absolute terms, the poorer nations spend very much less than the wealthier ones, but proportionately they seem to spend about the same.

Let me end, therefore, with a restatement of Bondi's dictum: 'you get no money for jam'. Private enterprise, on its own initiative, has invested stupendously in the past 30 years in the search for new, more effective, and safer medicines. Obviously, in any market, there are conspicuous imperfections. However, all the evidence seems to show that, in both the developed and the developing worlds, pharmaceuticals have made a disproportionately large contribution to human well-being and in many cases have also provided a direct economic payoff. In general, therefore, pharmaceuticals seems to be a very good health care sector in which to encourage investment by private enterprise. Some governments should therefore look again at their very restrictive scientific and economic policies towards pharmaceutical investment in their own countries.

References

- Abel-Smith, B. & Grandjeat, P. <u>Pharmaceutical consumption</u>. Brussels, Commission of the European Communities. 1978 (SDC (78) 3864).
- (2) Hansen, R. W. <u>The pharmaceutical development process:</u> estimates of development costs and times and the effects of proposed regulatory changes. New York, Center for the Study of Drug Development, 1979.
- (3) Joglekar, P. Cost benefits of health care programmes: a review of methodologies (paper presented at a joint meeting of TIMS/ORSA, New Orleans, 2 May 1979).
- (4) Reekie, W. D. <u>Pricing new pharmaceutical products</u>. London, Croom Helm, 1977.
- (5) Schwartzman, D. <u>Innovation in the pharmaceutical industry</u>. Baltimore, Johns Hopkins University Press, 1976.
- (6) Scrip 20 October 1979, page 12.
- (7) Stähl, I. <u>Health care and drug development</u>. Lund University, Department of Economics, 1979.

Résumé:

Les progrès réalisés dans le domaine pharmaceutique et les innovations thérapeutiques nécessitent des ressources et des personnels coûteux, dont la plupart provient de l'industrie pharmaceutique de recherche du monde occidental. On estime que de 1950 à 1969, 88% de toutes les nouveautés chimiothérapeutiques ont été découvertes et mises au point par l'industrie pharmaceutique occidentale. On peut évaluer les avantages des médicaments modernes sous quatre aspects principaux. Premièrement, par leur contribution au bien-être de l'homme; on estime, par exemple, que 250.000 personnes vivant aujourd'hui en Grande-Bretagne seraient décédées des suites de maladies infantiles sans les médicaments modernes. Deuxièmement, les médicaments modernes représentent une source d'économie pour les services de santé; ainsi. la réduction des lits occupés par les tuberculeux et les malades mentaux depuis le début des années 50 a-t-elle économisé dans chacun des cas à la Grande-Bretagne plus de £100 millions par an. Troisièmement, les médicaments modernes ont contribué à réduire l'absentéisme pour cause de maladie dans de nombreuses catégories de maladies, telles que l'arthrite et la pneumonie, économisant ainsi des prestations de maladie et évitant une perte de productivité nationale. Curieusement, l'absentéisme pour cause de maladie des 20 dernières années a néanmoins augmenté avec l'amélioration de la couverture par la sécurité sociale et l'abaissement des seuils d'acceptation des maladies. Enfin, l'élimination des décès prématurés est une source d'économie, ainsi la disparition de la tuberculose et de la pneumonie lobaire qui tuèrent de nombreux adultes jeunes et actifs dans les années 30, entraînant un bénéfice économique et une diminution des souffrances et des peines.

Comme le montre l'exemple de la tuberculose et des maladies mentales, certains médicaments permettent de grandes économies aux services de santé, mais pourraient être encore trop chers et donner lieu à des profits monopolistiques, en l'absence d'un marché pleinement compétitif. Des recherches récentes montrent toutefois qu'une concurrence réelle et efficace s'exerce au niveau des prix sur le marché pharmaceutique, où les sociétés doivent fixer les prix de leurs médicaments en tenant compte des traitements de remplacement, même si la plupart des coûts est généralement couverte par des organismes tiers. Cela n'équivaut pas à une 'concurrence parfaite des prix', comme pour des ressources indifférenciées telles que les céréales ou l'acier, car l'industrie pharmaceutique dépend des découvertes qu'elle fait de médicaments nouveaux, plus efficaces ou meilleur marché, qui sont nécessairement protégés par des brevets et différenciés par des marques de fabrique, L'estimation du coût de production d'une seul spécialité pharmaceutique est actuellement de \$54 millions aux Etats-Unis.

Malgré les avantages considérables procurés par les médicaments et une compétition efficace, les prix pharmaceutiques sont soumis à des contrôles dans de nombreux pays occidentaux. On peut reprocher à ces contrôles d'être inutiles et même d'être économiquement nuisibles, mais une fois mis en place, il est politiquement difficile de les supprimer. Le rapport coûtefficacité des produits pharmaceutiques est avéré par de nombreuses études de coût-bénéfice; par exemple, on estime que si tous les salariés allemands avaient été vaccinés contre la grippe en 1969-1970, il en serait résulté un bénéfice de 88,6 DM pour chaque vaccination coûtant 7,5 DM.

Néanmoins, les dépenses pharmaceutiques, qui ont toujours été modestes, ont diminué proportionnellement aux dépenses totales de santé engagées dans les pays occidentaux au cours des deux dernières décennies. Aux Etats-Unis, le pourcentage des dépenses de médicaments est tombé de 15,4% en 1960 à 9% en 1978, et pour la Communauté européenne, de 24% en 1960 à 15,7% en 1978. L'examen détaillé des pays du Marché commun révèle des variations considerables dans la part des dépenses totales de produits pharmaceutiques, mais confirme la tendance à la baisse.

La fourniture de médicaments aux pays moins développés pose des problèmes différents car, de toute évidence, ceux-ci ne peuvent pas faire face aux investissements élevés que comportent les innovations pharmaceutiques. Heureusement, la population rurale a besoin de médicaments de base bien connus, qui appartiennent à une génération antérieure de découvertes, ne sont plus couverts par un brevet, et, par conséquent, sont disponibles à des prix spéciaux, comme par exemple, la première génération d'antibiotiques. Jusqu'à une date récente, les sociétés innovatrices gardaient leurs prix à un niveau relativement élevé pour faire face aux coûts de leurs programmes de recherche à long terme, ce qui poussa les pays moins développés à s'approvisionner auprès de producteurs non-innovateurs mais meilleur marché, tels que les pays communistes de l'Europe de l'Est, bien que la qualité de leurs médicaments n'ait pas toujours été adéquate. Toutefois, plus de 40 sociétés occidentales de recherche ont maintenant offert leur collaboration à l'Organisation Mondiale de la Santé pour la fourniture aux pays en développement les plus pauvres de plus de 150 médicaments à des prix préférentiels. Un changement d'attitude envers la commercialisation des produits pharmaceutiques dans les pays en développement implique des problèmes complexes et délicats, notamment le contrôle de la corruption,

souvent considérée au niveau local comme une pratique commerciale normale. Il est évident que les produits pharmaceutique modernes, utilisés d'une manière appropriée, comme par exemple les vaccins et les antibiotiques, ont donné des résultats très positifs dans les pays en développement. Ils n'ont pas toujours été vendus et utilisés à bon escient mais des critiques persistantes de ces pratiques ont encouragé les sociétés multinationales à appliquer partout les mêmes modèles de commercialisation, en dépit des difficultés rencontrées au niveau du contrôle local. De même, on a prétendu qu'une commercialisation poussée a encouragé une utilisation excessive de produits pharmaceutiques dans ces pays, mais les vaccins et médicaments vendus à des prix préférentiels sont plus susceptibles d'avoir un bon rapport coût-efficacité qu'une technologie sophistiquée basée sur des installations hospitalières et les données disponibles révèlent que les pays développés et en développement dépensent une part plus ou moins égale de leur produit national brut en produits pharmaceutiques (0,7 - 0,8% du PNB).

De toute évidence, les entreprises privées, grâce à d'énormes investissements en matière de recherches et développement, ont produit de nombreux médicaments nouveaux plus efficaces et plus sûrs au cours des trente dernières années, contribuant ainsi dans une large mesure au bien-être et assurant souvent un bénéfice économique direct. Il faut donc espérer que les Etats reconsidéreront leurs politiques scientifiques et économiques très restrictives à l'égard d'un tel investissement. L'EDUCATION ET LA FORMATION POUR LE CHANGEMENT - LE CHANGEMENT DANS L'EDUCATION ET LA FORMATION

D. Flahault

Comme cet exposé concerne le changement tout autant que l'éducation et la formation, nous centrerons notre réflexion sur le changement d'orientation que les Etats Membres de l'OMS ont jugé nécessaire et ont adopté pour atteindre l'objectif de la santé pour tous en l'an 2000. Nous envisagerons ce changement d'orientation avec ses implications relatives à l'éducation et la formation des personnels de santé, mais disons d'emblée que nous ne chercherons pas à différencier éducation et formation, les considérant comme deux aspects complémentaires, l'un plus culturel et théorique, l'autre plus fonctionnel et pratique, d'un processus que nous préférons qualifier d'apprentissage plutôt que d'enseignement, attachant plus de prix à ce qui est assimilé et utilisé par l'étudiant plutôt qu'à ce qui est débité ou déclamé par le professeur.

L'éducation et la formation pour le changement

Nous allons chercher à appliquer ici l'approche rationnelle et séquentielle que nous recommandons lorsqu'il s'agit de préparer un personnel de santé, quel qu'il soit, à ses activités. A cet effet nous allons poser un certain nombre de questions et chercherons à y répondre.

- Quels sont les besoins des populations ? Que voit-on dans les pays en voie de développement en ce qui concerne les services de santé ? Dans les villes, il y a des hôpitaux et des dispensaires, des médecins et des infirmières, des dentistes et des pharmaciens. Les services offerts à la population peuvent certainement être améliorés - où ne pourraient-ils pas l'être ils sont parfois onéreux, trop onéreux, mais du moins existent-ils. Dans les régions rurales, la situation est toute différente : il n'y a pas, ou très peu, de services disponsibles, il n'y a pas, ou trop peu, de personnel qualifié accessible. Quantitativement et qualitativement il y a une extrême pénurie de service, de personnel mais aussi d'approvisionnement en médicaments et en équipement de première nécessité. Et pourtant, nous le savons tous, c'est dans les régions rurales que vit la grande majorité, 70, 80, 90% et plus, de la population du monde en voie de développement. I1 importe donc d'agir. Les besoins des populations appellent à

changer l'ordre actuel des choses pour permettre la santé pour tous et non plus pour quelques-uns seulement.

- Quelles sont les ressources disponibles pour pouvoir préparer le personnel de santé nécessaire au changement qu'implique la santé pour tous ? C'est là que les contraintes économiques se font sentir. Les besoins sont immenses et les ressources très limitées : l ou 2 dollars par an et par habitant pour le budget de fonctionnement de beaucoup de ministères de la santé ! Mais quelles que soient ces ressources, il faut les inventorier dans chaque secteur pour ce qui existe et planifier les ressources à venir pour développer les services de santé et le personnel nécessaire à leur fonctionnement en fonction des nouvelles options. C'est en effet cet inventaire et cette prévision de l'ensemble des ressources sur lesquelles on pourra compter qui fixeront les limites des réalisations possibles.

- Quelles sont alors les priorités ? La tâche est immense et tout ne peut être fait. Jusqu'à maintenant des priorités avaient été élaborées, mais elles ont abouti à favoriser les minorités urbaines, il convient de reconsidérer ces priorités pour choisir et classer les actions à accomplir afin d'utiliser au mieux les ressources existantes dans l'objectif de la santé pour tous.

🤗 Quelles sont les tâches à attribuer à chacun ? 🛛 Les choix étant faits, les décisions étant prises de ce que l'on fera et de ce que l'on ne fera pas, il faut diviser le travail, l'organiser. Nous pensons que cette planification des activités du personnel de santé doit se faire de bas en haut, de l'échelon périphérique, rural, vers l'échelon central situé le plus souvent dans la capitale, ceci afin d'assurer une meilleure place à cet échelon périphérique rural si longtemps délaissé en déterminant les tâches de chacun à chaque échelon des services de santé en fonction des tâches confiées à l'agent de santé de village. Les soins de santé primaires, ne l'oublions pas, pour essentiels qu'ils soient, font partie d'un système, supposent des soins secondaires puis tertiaires. Les soins de santé primaires conditionnent aussi les tâches des personnels de santé des niveaux intermédiaires, puis de district, puis régionaux, etc. ... La composition des équipes de santé, la place de chacun dans ces équipes, les relations de travail des uns et des autres, les délégations de responsabilités, les lignes de supervision et de recours se déterminent d'après les tâches à

accomplir qui seront précisées pour chaque membre de chaque équipe par une description de son poste et de ses activités. C'est alors que l'on pourra décider si le personnel existant est en mesure d'accomplir le changement d'activités demandé, au besoin après recyclage, ou si un nouveau type de personnel doit être introduit, comme ce fut le cas dans certains pays avec, par exemple, des assistants médicaux à l'échelon intermédiaire et des agents de santé communautaires à l'échelon périphérique.

- Quels sont les objectifs d'enseignement pour préparer chacun à sa tâche dans le programme d'action pour la santé pour tous ? Ces objectifs d'enseignement doivent décrire ce que l'étudiant sera capable de faire à la fin de son apprentissage, ils sont donc basés sur les tâches à exécuter et la formation doit viser à l'acquisition d'une compétence.

Quels programmes d'enseignement ? Les tâches à accomplir, les objectifs d'enseignement et la compétence nécessaires définis, les programmes d'enseignement apportent les connaissances, les techniques et les attitudes nécessaires pour acquérir les compétences requises. Le mot clé dans l'établissement d'un programme de formation est la <u>pertinence</u>, c'est à dire sa concordance avec les besoins de santé de la collectivité tels qu'ils sont déterminés par les enquêtes épidémiologiques et sociologiques. Les programmes de formation de chaque catégorie de personnel doivent indiquer ce que chacun doit apprendre pour être efficace et rentable dans les limites des ressources et des installations disponibles.

- Quelles sont les meilleures méthodes d'éducation et de formation pour préparer à apporter la santé pour tous ? L'observation critique de ce qui se fait souvent peut aider à répondre à cette question :

- une formation plus ou moins longue, parfois très longue, à l'étranger, loin des conditions et préoccupations locales ?
- une formation dans un campus sophistiqué et isolé du monde ?
- une formation passive où l'étudiant attend et écoute plus ou moins ?

 une formation tellement compétitive qu'on surcharge les programmes pour réduire le nombre de ceux capables de les absorber, ou encore tellement compétitive qu'on élabore des examens avec des question-pièges pour éliminer le plus d'élèves possible ?

Les methodes d'enseignement/apprentissage doivent non seulement aboutir à un apprentissage efficace et donc à la réalisation des objectifs, mais il leur faut aussi être acceptables sur le plan culturel. Le choix des méthodes dépendra de toute une série de facteurs tels que leur adaptation à une situation donnée et leur compatibilité avec les élèves, les enseignants et les conditions socio-économiques.

Les méthodes d'enseignement sont en général efficaces si elles tiennent compte de l'intérêt, de la capacité et des fonctions futures de l'enseigné et si elles lui offrent une possibilité de participer au processus d'apprentissage, comme par exemple par des exercices de résolution de problèmes pratiques.

Dans certains cas, et en particulier lorsqu'il s'agit de former des enseignants ou de programmes d'éducation permanente, des manuels d'auto-enseignement programmé peuvent se révéler très utiles.

😤 Quels matériels d'éducation et de formation préparent à la Santé pour tous ? Ce matériel doit être sélectionné et préparé en fonction des objectifs visés. Bien sûr, la situation n'est pas la même dans les pays développés où c'est le plus souvent le médecin qui donne les soins de santé primaires et où, même si la situation peut être améliorée, des services de santé sont largement dispon-Mais dans les pays en voie de développement, de quel ibles. matériel disposent les médecins, les dentistes, les pharmaciens, les infirmières, qui les prépare à jouer leur rôle dans le système de prestation des soins de santé? Bien peu de manuels, bien peu de programmes ont été déjà élaborés. Certains l'ont été pour les agents de village. L'OMS y a contribué (1), mais beaucoup reste à faire pour permettre de préparer le personnel de santé au changement impliqué par la recherche de la santé pour tous. Les techniques audio-visuelles qui se sont beaucoup développées ces dernières années doivent elles aussi s'adapter pour être utilisables en milieu rural, où l'on ne dispose pas toujours du courant électrique pour la formation d'agents de village.

Voir l'Agent de Santé Communautaire, Guide d'action, guide de formation, guide d'adaptation. OMS, Genève, 1977.

- Enfin, l'éducation et la formation conduisent-elles à apprendre ce qu'il faut, comme il faut et quand il faut pour permettre le changement en faveur de la santé pour tous ? C'est l'évaluation de la pertinence, de la progression, de l'efficacité et de l'impact du programme. C'est le moyen, le processus continu qui vise à corriger et à améliorer les actions entreprises et à faire en sorte qu'elles correspondent aux orientations ou réorientations choisies.

- C'est ainsi que l'éducation et la formation peuvent être des facteurs essentiels de changement, de ce grand changement que nous avons pris pour exemple pour aboutir à la santé pour tous. Prise de conscience par le personnel de santé des problèmes qui se posent et qui débordent largement le domaine de la santé, ouverture d'esprit pour s'adapter aux besoins des autres, motivation pour agir et remettre en question les habitudes anciennes et confortables, approche rationnelle enfin pour aller au plus urgent et rechercher le meilleur résultat possible en fonction des contraintes imposées.

Le changement dans l'éducation et la formation

🗝 Pourquoi changer l'éducation et la formation ? L'éducation et la formation, nous l'avons vu, préparent au changement mais, par une sorte d'effet en retour (d'effet 'boomerang'), le changement décidé demande une modification de l'éducation et de la formation. Lorsque les tâches changent, l'éducation et la formation qui préparent à ces tâches doivent aussi changer. Une telle assertion peut paraître une évidence et pourtant souvent, longtemps, la force de la tradition et de l'habitude aidant, l'éducation et la formation des personnels de santé se sont poursuivies sans trop se soucier des activités qui devraient être plus tard celles de ce personnel. Que l'on regarde aujourd'hui à quoi sont préparés nos médecins, si ce n'est à traiter des maladies et souvent des maladies rares qu'ils ne rencontreront peut-être jamais, alors que les grands problèmes de santé publique ne leur sont parfois même pas présentés malgré les importantes implications socio-économiques de ces problèmes, qu'il s'agisse justement du coût de la santé dont on n'a commencé que bien récemment à s'émouvoir, de questions d'assainissement du milieu, de surpeuplement, etc. ... Dans les pays en voie de développement, c'est bien aux 20% de privilégiés qu'est le mieux adaptée la formation des médecins, des dentistes, des pharmaciens et des infirmières. Il est urgent que leur

éducation et leur formation change pour s'adapter aux nouveaux objectifs. Certes, il peut paraître un peu ridicule de vouloir ignorer les efforts qui ont été faits au cours de la dernière décennie dans les pays tant développés qu'en voie de développement, efforts auxquels l'OMS a participé et qui permettent un certain optimisme, mais il reste beaucoup à faire pour que l'éducation et la formation des personnels de santé puissent les préparer de façon satisfaisante aux changements décidés ou intervenus dans les politiques de santé des pays.

²² Comment faire plus et mieux ? Dans les pays en voie de développement, l'adoption de la Déclaration d'Alma-Ata est un engagement qui porte l'espoir des 80% non touchés par les services officiels de santé. C'est aussi un engagement dans une voie dont les grandes lignes sont tracées, mais où il importe de travailler les détails et de trouver des solutions et des adaptations propres Au niveau de la planification, un effort de à chaque pays. rapprochement entre les formateurs et les utilisateurs des personnels de santé est devenu nécessaire pour assurer la pertinence de la formation, car il importe de ne pas oublier, par exemple, qu'une infirmière chargée de faire du 'nursing' dans un hôpital n'a pas du tout les mêmes activités que celle chargée de faire le tri dans une consultation d'un centre de santé rural et que leur formation doit donc être différente. L'approche recommandée par l'OMS sous le vocable de développement intégré des services et des personnels de santé invite formateurs et utilisateurs à coopérer étroitement afin de définir les tâches à accomplir pour répondre aux besoins des populations et afin d'établir des programmes d'enseignement correspondant à ces Au niveau des services, il existe un personnel qu'il tâches. importe de recycler pour le mieux utiliser; ceci est aussi valable pour certains personnels traditionnels comme les accoucheuses traditionnelles, par exemple. Il peut être nécessaire de former autrement le nouveau personnel en apppliquant à la révision des processus de formation les principes que nous avons cherché à développer dans la première partie de cet exposé, en se référant constamment aux besoins, aux priorités et aux tâches. Il convient de garder toujours à l'esprit la nécessité de ne pas surcharger le personnel, car la tentation est toujours grande d'ajouter régulièrement telle ou telle nouvelle tâche prioritaire. Il y a des limites à l'action de l'homme au-delà desquelles on aboutit, malgré les bonnes intentions, à un résultat opposé à celui recherché: le dégoût, la perte de motivation, la fatique, le désespoir, l'impression d'être

abandonné et incompris ! Un personnel qui fait bien un nombre limité de tâches est toujours préférable à celui qui n'a pas le temps de bien faire. C'est là qu'apparaît parfois de la part de l'échelon central une méconnaissance ou une mauvaise appréciation du travail et des conditions de travail de l'échelon périphérique. Il faut soit se résoudre à offrir moins de services, soit augmenter le personnel existant, soit revoir la distribution des tâches et envisager, si besoin est, la création d'un nouveau personnel. Mais nous voudrions ici insister sur le nouveau rôle, la nouvelle place que les soins de santé primaires offrent aux médecins et aussi aux autres personnels les plus qualifiés de l'équipe de santé : dentistes, ingénieurs sanitaires, infirmières de santé publique en particulier. Ce nouveau rôle comprend plusieurs aspects. C'est d'abord un rôle de manager qui consiste à planifier, à organiser, à suivre le développement du programme au niveau des dispensaires de village, des centres de santé ruraux et de l'hôpital rural, rôle dans lequel le médecin et ses collaborateurs se trouveront responsables de la santé et de l'organisation des soins de tout un secteur du pays. Rôle de chef d'équipe ensuite, où la formation du personnel et la supervision comprise comme un élément de formation permanente occuperont une place prédomin-Rôle de recours enfin, où le médecin recevra et traitera ante. les cas difficiles ou compliqués nécessitant sa compétence, complétant ainsi le travail des autres membres de son équipe et faisant ainsi la liaison entre soins primaires et secondaires. Ce nouveau rôle avec ses différents aspects devra bien sûr commander une révision, qui reste très largement à faire, un changement important des programmes d'éducation et de formation.

Dans les pays développés, comment peut-on faire plus et mieux ? Le changement que demandent aux pays développés les soins de santé primaires est à n'en pas douter différent. Les problèmes sont différents, la couverture des populations par les services de santé est bien meilleure, les ressources disponibles sont bien supérieures qu'il s'agisse de l'infrastructure de santé, du personnel ou des moyens financiers. De plus, ces pays peuvent trouver chez eux et avec leurs seuls moyens les solutions à leurs problèmes. Il n'en demeure pas moins que des changements dans les programmes d'éducation et de formation permettront d'éviter le gaspillage et d'améliorer le rendement du personnel, si on parvient à améliorer la pertinence de l'enseignement. D'autres changements pourraient remettre en question les méthodes d'enseignement en privilégiant celles donnant plus de responsabilités aux étudiants et en facilitant leur apprentissage pratique. D'autres

améliorations pourraient viser l'évaluation de l'enseignement en mettant l'accent sur son caractère essentiel de processus continu, ce qui devrait permettre de s'assurer que les services offerts correspondent bien aux besoins de tous, car tout pays développé a aussi ses zones sous-développées, ce qui devrait permettre aussi de mieux adapter les programmes aux besoins des élèves et montrer aux enseignants eux-mêmes les points faibles de leurs interventions.

- Si le changement apparaît nécessaire, il ne vas pas toujours de soi et bien des obstacles existent au changement, obstacles qu'il convient de connaître pour pouvoir les surmonter. Non spécifiques, ceux que nous citerons en les empruntant au Dr John Bryant sont des obstacles à tout changement mais qui se retrouvent aussi dans le domaine de la formation du personnel de santé; ce sont :

- le conservatisme ou la tendance des individus et des institutions à maintenir les choses comme elles sont,
- la bureaucratie avec son inhérente résistance au changement,
- la complexité même de tout changement de programmes d'enseignement,
- le manque de ressources du système pour permettre une redistribution des énergies et des moyens susceptibles de provoquer des changements,
- l'absence de modèles sur lesquels baser un changement des programmes d'enseignement.

Changer les habitudes acquises, aller à l'encontre des traditions, c'est toujours s'exposer à des obstacles. Les changements proposés dans l'éducation et la formation se sont heurtés, en effet, à des attitudes rigides de la part des enseignants et de la part des professions de santé. Il a fallu dénoncer certains lobbies tel que celui qui a pu regrouper certains enseignants traditionalistes opposés à toute remise en cause des programmes de formation qu'ils avaient tendance à considérer comme établis plus ou moins de façon définitive. Réformer le contenu de l'enseignement, n'était-ce pas vouloir

ébranler tout un système de valeurs auquel on était attaché ? n'était-ce pas remettre en question l'image d'une profession à laquelle le public s'était habitué et qui bénéficiait à n'en pas douter d'un incontestable prestige ? Réformer les méthodes d'enseignement, introduire une pédagogie moderne, n'était-ce pas s'attaquer au corps professoral lui-même, mettre en doute ses capacités et contribuer à saper l'ordre établi ?

- La motivation du personnel est un important facteur de changement. L'efficacité du personnel de santé se trouvera décuplée s'il trouve dans son travail un idéal, si en plus de son rôle dans les services de santé il a conscience d'être un élément de changement, un élément essentiel du développement de la collectivité. Le médecin, l'assistant médical, l'infirmier de dispensaire, sont encore considérés au sein des collectivités et surtout des collectivités rurales où ils exercent comme des notables respectés et écoutés. Ce sont des personnalités qui ont reçu une instruction d'un niveau supérieur à la moyenne et qui disposent de techniques souvent efficaces. Cette position privilégiée dont bénéficie le personnel de santé peut servir à développer la collectivité s'il se donne la peine d'animer, de stimuler, de catalyser les préoccupations et les idées nouvelles d'une population qu'il connaît, qu'il écoute et comprend mieux Il deviendra vite le conseiller des autorités que quiconque. locales et des habitants et ce rôle influent peut être un élément décisif de changement; s'il est assuré de façon consciente et avec dévouement, il peut être de nature à donner au personnel de santé une autre dimension à son action, une autre raison de vivre. un autre idéal qui en valent la peine.

En conclusion, nous rappellerons que les services de santé évoluent en fonction du développement du pays, des besoins de la société, des progrès de la technique mais aussi en fonction des leçons de l'expérience dont il faut savoir tirer parti à temps pour entreprendre les changements nécessaires. Prévoir ces changements, les organiser, les traduire dans les faits, tel est le rôle des personnels de santé aux différents échelons, rôle auquel ils doivent être préparés afin de ne pas se laisser surprendre par l'événement, afin d'éviter les soubresauts des révolutions qui surviennent lorsqu'on a refusé ou trop fait attendre le changement.
FLAHAULT

Summary:

The Member States of WHO have reached the conclusion that, if the objective of health for all by the year 2000 is to be achieved, a certain change of direction is needed in education and training. This change can be approached systematically by asking a series of questions. First of all, what are the people's actual requirements ? Though in theory they cover 70-90% of the population living in rural areas, rural health services in the developing countries are often completely non-existent or very badly equipped in terms of staff, drugs and basic facilities. Secondly, what resources are available for making sure that everybody has access to basic health services ? For this an inventory of resources is essential for each sector so as to determine just what it is possible to achieve. Third, what are the priorities ? Fourth, what tasks are to be assigned to each person ? This planning of the activities of health personnel must cover the entire system, from the periphery to the centre. The definition of the posts and teams is closely interrelated with the general structure of the health system and serves as a guide to whether the existing staff is in a position to achieve the agreed objectives or whether a new type of personnel is required.

The next question concerns the teaching itself: what are its aims ? These have to be geared to the acquisition by each individual of the necessary skills needed to cope with his task. Next, the syllabuses have to be established, the key criterion being that the training syllabus has to be consistent with the needs as defined, the tasks to be accomplished, and the available resources and facilities. The seventh and eighth questions relate to the best teaching methods and the best education aids, respectively. At present, training often tends to be lengthy, unrelated to local conditions, run by a sophisticated staff, passive rather than active, over-loaded and so competitive as to eliminate a substantial number of the students. To be really effective, teaching methods need to take into account the interest, ability and future functions of the trainees and provide them with a practical apprenticeship based on real problems. Teach-yourself manuals are sometimes useful, especially when it comes to teacher-training and continuous education programmes, but there is much scope for improvement in this area. Lastly, do the education and training enable the students to learn what is needed, as and when it is needed, so as to achieve the established aims ? This entails continuous appraisal of each programme in order to make improvements and check that it corresponds to the broad lines originally laid down and to any

subsequent modifications. Education and training are looked upon as vehicles of change that are designed to help the personnel to come to grips with such problems as may arise and to encourage them to take a fresh look at their comfortable and long established habits in the light of possibly more rational approaches that may be better suited to the desired objectives.

The second part of the title places the emphasis on change in education and training, for the power of tradition is such that, for a long time, these activities have been pursued without too much thought being given to the kind of work that the personnel will subsequently be called upon to carry out. For instance, doctors are mainly learning to treat diseases, often quite rare diseases, while the major problems of public health are often overlooked. There is therefore a pressing need for training to be geared more effectively to the new objectives.

Now that the Declaration of Alma-Ata has been adopted, the next step is to translate it into practical solutions. Specifically, closer links must be forged between the trainers and the users of the personnel so as to make the training itself more relevant to the task. At the same level, some of the staff (including traditional practitioners) have to be retrained so as to be more usefully employed; new staff has to be trained, too, with constant attention to requirements, priorities and tasks. At the same time, care must be taken not to overload the system with too many new priorities. Either the supply of serviced must be restricted or the personnel must be increased, or else the distribution of tasks must be reconsidered and new categories of staff created, if necessary.

Under the new approach to primary health care, the doctor is a team leader who plans, organizes, and follows up the programme at every level, for an entire sector of the country. Staff training, including continuous in-service training, is one of his chief responsibilities. As a practitioner, he will be expected to treat difficult cases requiring his particular skills, thereby complementing the work of his team. This new role calls for a substantial change in training programmes for doctors which, for the most part, has yet to be introduced.

Although the problems in developed countries are naturally different, there is no less need for a change of approach towards training so as to prevent waste and improve the productivity of the personnel by more relevant teaching. Any modification in

FLAHAULT

the training of health personnel will have to overcome such obstacles as conservatism, red tape, the complexity of the process of change, lack of resources and the absence of any model on which the proposed changes can be based.

To conclude, personnel motivation is a major factor in any change. The personnel must see their role as that of an instrument of change representing an essential contribution to the development of the community, in which they hold a privileged position and in which they can act as a springboard for the launching of new ideas among a population with which they are familiar. In this way, their influence can be decisive in any process of change. In practice the development of health services goes hand in hand with that of the country in which they operate, and it is the responsibility of the health personnel to foresee the changes that are needed, to organize them, and to see to their execution. The changes they bring about must be part of a gradual process if they wish to avoid sudden disruptions that occur when change is unduly delayed or resisted. Sahni: I believe this Conference is of special importance since it discusses some of the key issues facing or likely to face health policy-makers, administrators, and professionals in achieving the primary health care goals agreed upon at the Alma-Ata Conference in 1978.

I will concentrate on three points:

- a) Approaches to health care delivery in India and the efficiency and effectiveness of the relevant services.
- b) Organizational, manpower, and technological constraints in the effective delivery of these services.
- c) New strategies and programmes for the effective delivery of health services.

According to the Alma-Ata declaration signed on 12 September 1978, primary health care must be made universally accessible to individuals and families in the community by means acceptable to them, with their full participation, and at a cost that the community and country can afford. Primary health care should deal with the main health problems of the community, providing promotive, preventive, curative, and rehabilitative services. These services include the promotion of proper nutrition, the provision of safe and adequate water supplies, basic sanitation, maternal and child care and family planning guidance, immunization against major infectious diseases, prevention and control of locally endemic diseases, education concerning prevailing health problems, and appropriate treatment of common diseases and injuries. India has accepted the challenge and adopted the target 'Health for all by the year 2000 AD'.

Among the world's non-socialist countries, India has the longest experience in planning at the national level. In the pre-independence period, the Indian National Congress had a Planning Committee headed by Sir Jawaharlal Nehru. The first serious attempt to work out an integrated health service system in India was made in 1943, when the Government set up the Health Survey and Development Committee with Sir Joseph Bhore as Chairman. In 1946, the Bhore Committee made comprehensive and bold proposals for the development of a national programme of health services. During the last 30 years, sustained efforts have been made to implement its recommendations as well as those

of other committees in the health field - the Mudaliar Committee (1961), the Jain Committee (1968), the K.N. Rao Committee (1974), and the Shrivastava Committee (1975). In spite of all these Committees' Five-Year Plans (and three Annual Plans), which have been fairly elaborate, it is still difficult to say that India has a clearly defined national health policy.

Nevertheless, over the past 30 years or so, India has built up a dynamic organizational machinery for its health services, developing both manpower and health care technology (see Table 1).

The following figures for 1978-79 are particularly striking:

- = 5096 hospitals and 12 511 dispensaries with 495 871 beds
- 106 medical colleges with an annual admission capacity of 13 000, and 108 non-allopathic medical colleges with an admission capacity of 4199
- 5400 primary health centres and 38 115 subcentres
- 178 000 doctors, 113 455 nurses, 57 650 auxiliary nursemidwives, 32 600 health assistants, 145 434 registered homoeopaths, and 271 637 registered practitioners in Indian systems of medicine.

At the same time, India's population has increased from 360 million to 650 million.

In spite of these impressive results, it is clear that there are still problems, notably those of the availability and affordability of health services. Major criticisms are:

Rural India, which contains 80% of the country's population, is not receiving health services to the desired level, even 27 years after primary health centres were introduced. Indeed, 60% of the 20% of the urban population still living in urban slums also receive health services below the desired level.

the second s							
				Pop	ulati	on per	unit
	1951-56	1978	-79	1977-	.78	Norm comm by Muc Comm	s re - ended daliar ittee
Population	360 million	650 mi	llion				
Life expectancy:							
Males	41.9	52	. 6				
Females	40.6	51	.6				
Hospitals	-	5	096ª				
Dispensaries		12	511a				
Beds (all types)	125 000	495	871a			1	231
Medical colleges	42		106	5.98 mi	llion		
Annual admissi	ion 3 500	13	000				
Doctors	65 000	178	000	3	730	3	500
Nurses	18 500	113	455	5	870	5	000
Primary Health Ce	entres 67	5	400				
Subcentres	37	38	115				
Auxiliary Nurse-							
Midwives	12 780	57	650	11	000	5	000
Health Assistants	s/						
Sanitary							
Inspectors	4 000	32	600 ^D	18	000	10	000
Ayurvedic college	es -		93a				
Admission capa	acity	3	664				
Unani colleges			14a				
Admission capa	acity		485				
Sidha colleges			Iª.				
Admission capa	icity		50	1/5	1212		
Registered homoed	opaths-		-	145	4 3 4 a		
indian systems of							
medicine: regi	lster-			271	(278		
ed practicioner	5 -			271	03/4		

1	Table	1.	Development	of	health	and	medical	facilities,	India.
2	(c)								

a 1977 figure ^b 1974 figure

- Medical education and health needs and services have been developing in isolation, with over-reliance on curative services that are urban, hospital-based, and diseaseoriented, meeting the needs of privileged groups only and using sophisticated technology. As a result, 80% of the financial and manpower resources in the health sector are spent on hospitals in the urban areas.
- Vast numbers of people are dying for lack of even the simplest measures of health care, many others have serious physical and mental impairments. The principal causes of morbidity are malnutrition, vector-borne, gastrointestinal, and respiratory diseases, themselves the result of poverty, squalor, and ignorance. Diseases in women are related to deprivation, unregulated fertility, and exhaustion, all of which have effects on unborn and newborn children. Between 1961 and 1977, the annual figure for deaths from malaria in rural areas rose from 49 451 to 4 565 517, and Table 2 shows that 50% of deaths in these areas are due to simple preventable ailments.

The main obstacle to the achievements of targets and the expansion of resources in villages and slums has been lack of funds. Health and education are part of the social services, which have been receiving the lowest priority in financial allocations. The First Five-Year Plan set apart only 3.3% of its budget for health and family welfare, and this proportion has progressively decreased as shown in Table 3, amounting to only 1.8% in the Fifth Plan.

For the period of the Sixth Plan (1978-79), only 2.4% (Rs 2810 million) of the total plan investment was allocated for health and family welfare. Recent reports indicate that the allocation for centrally sponsored schemes in the Sixth Plan budget has been cut from Rs 13 190 million to Rs 11 445.3 million - a 13% decrease.

Table 4 shows that manpower availability and expenditure in the health field are lower in India than in neighbouring countries.

	Percentage of	all deaths
Cause group	1970	1974
Coughs Fevers Digestive disorder Circulatory troubl	24.0 14.9 s 8.7 es 2.8	20.5 12.6 9.7 7.1
	50.4	49.9

Table 2. Deaths in rural areas by major groups of causes, India, 1970-74.

Table 3. Pattern of public investment in different development plans in India.

	Plan		Н	ealth ^a	Total 1	Investmen	t
			Rs (millions)	Rs (n	nillions)	
First Plan	(1951-56)		652	(3.3)	19	600	
Second Plan	(1956-61)	1	408	(3.0)	46	720	
Third Plan	(1961-66)	2	259	(2.6)	85	765	
Annual Plans	(1966-69)	1	402	(2.1)	66	254	
Fourth Plan	(1969-74)	3	355	(2.1)	157	788	
Fifth Plan	(1974-78						
	1974-75		852	(1.7)	50	386	
	1975 - 76	1	181	(1.8)	64	961	
	1976-77	1	402	(1.7)	80	705	
	1977-78	1	849	(1.9)	99	654	
Sixth Plan	(1978-79)	2	811	(2.4)	116	493	

^a Figures in parenthese indicate the investment in health as a percentage of total investment.

Source: Pocket book of health statistics of India. New Delhi, Ministry of Health and Family Welfare, 1978.

To achieve the objectives of the Alma-Ata Conference, higher allocations of the plan budget will have to be made to the health field. Health experts have stressed that a minimum level of 10% of the Sixth Plan outlay (or Rs 71 000 million) should be recommended for the health and family welfare programmes. Where can the extra Rs 59 554.7 million come from ? The Alma-Ata Declaration provides the answer: 'A genuine policy of independence, peace, detente and disarmament could and should release additional resources that could well be devoted to peaceful aims such as acceleration of social and economic development.' However, I doubt that Indian policy-makers will be prepared to divert a part of the defence budget to the development of a better health care infrastructure.

Table 5 presents the health sector outlay for 1978-79. Only meagre sums are available for preventive programmes and rural health programmes.

The population in 2000 AD will be approximately 920 million, 674 million of whom will be living in rural villages. Assuming that the urban population is taken care of by hospitals and private practitioners, how best can health and family welfare services be delivered to this vast rural population ?

Table 4 presents the doctor:population and nurse:population ratios in India compared with those in neighbouring countries. It is clear that, with the exception of Bangladesh and Thailand, India has the most unfavourable doctor:population ratio and, with the exception of Bangladesh, the most unfavourable nurse:population ratio.

Table 6 shows the health manpower needed to achieve primary health care objectives by the year 2000. In India today there are approximately 178 000 doctors. Data on their utilization are incomplete, but the 1971 census gives a rough idea of it:

Employment status of doctors	Male	Female	Both sexes
	(%)	(%)	(%)
Employees (public and private			
sectors)	54.3	56.5	54.7
Self-employed	25.0	16.9	23.5
Unemployed	4.2	8.4	4.9
Others (including trainees,			
retired, etc.)	16.5	18.2	16.9

Only a quarter are self-employed, the majority being in salaried jobs; a sizeable number are unemployed.

Table 4. Health manpower availability and health expenditures in India and neighbouring countries, 1974-76.

Country	Population per doctor	Population per nurse	Health Expendi- ture as % of total government expenditure
India	4 0 3 6	6 336	3.5
Bangladesh	14 808	42 298	4.7
Mongolia	508	271	10.0
Phillipines	2 670	1 961	-
Singapore	1 759	707	
Sri Lanka	4 000	2 333	6.0
Thailand	8 455	3 341	5.1

Programme	Purely central	Centrally sponsored	States and Union territories	Total
		Rs (million	ns)	
Rural health	-	315.7	397.2	712.9
Hospitals and				
dispensaries	74.8	-	396.8	471.6
Medical education				
and research	84.8	2 -	290.0	374.8
Training	0.2	0.3	18.4	18.9
Control/eradication				
of communicable				
diseases	11.3	914.4	91.3	1017.0
Indian systems of				
medicine and				
homoeopathy	36.4	6.5	72.7	115.6
Other programmes	12.3	8.1	56.0	76.4
Employee State				
Insurance Scheme	19 1 1	-	23.9	23.9
Total	219.8	1245.0	1346.3	2811.1

Table 5. Health sector outlay, India, 1978-79

	Pre num	sent ber	Requir in 193 per s norms	rement 79 as tated	Requi: in 200 per p: norms	rement DO as resent
Estimated population						
(rural and urban)			650 m	illion	920 m:	illion
Doctors	178	000	184	800	262	000
Nurses	113	455	129	356	183	400
Auxiliary nurse-						
midwives	57	654	129	356	183	400
Health supervisors	8	200	20	697	26	960
Multipurpose workers		?	103	484	134	800
Community level health						
workers	66	579	517	423	674	000
Trained dais *	46	748	517	423	674	000

Table 6. Health manpower requirements for meeting Alma-Ata objectives, India

* Dais are local health workers assisting in the maternity and child welfare work.

India has an average doctor:population ratio of 1 : 4000, but the distribution is very biased, ranging from 1 : 500 in urban areas to $1 : 16\ 000$ or $1 : 20\ 000$ in rural areas.

The number of dental surgeons in the country is estimated at a little over 10 000 i.e. a ratio of 1 : 60 000 population. The norm worked out by the Dental Council of India is 1 : 30 000. A large-scale expansion of dental training facilities will be required to achieve this ratio.

The estimated number of nurses is 178 000, giving a ratio of 1 : 6000. The norm recommended by the Mudaliar Committee is 1 : 5000. The desirable ratio of doctors to nurses is considered to be 1 : 3. But in India the ratio is reversed, being about 1.7 : 1. The number of qualified nurses will have to be increased. The schools of nursing can take in many more students.

At present there are 8200 health visitors and health supervisors, whereas 26 960 are required.

At present there are 57 654 auxiliary nurse-midwives. To provide the target of one per health subcentre of 5000 people, 183 400 will be required.

In 1970, there were 5271 registered pharmacists. According to the Mudaliar Committee, the norm should be 1 : 10 000 population, i.e., 92 000 pharmacists by the year 2000.

These are enormous gaps to be filled and large numbers of other health workers such as public health nurses, health educationists, physiotherapists, occupational therapists, multipurpose workers, vaccinators, sanitarians, medicosocial workers, etc. are also needed if health care is to make effective headway.

Health is part of overall planning but its implementation is the responsibility of the various States. The structure is as follows:

Ministry of Health and Family Welfare (central level) Directorate General of Health Services (central level) Directorate of Health Services (State level) District Health Office.

The above structure is for planning and programming. The actual delivery of health services, following the pattern suggested by the Bhore, Mudaliar, and Jain Committees, is as follows:

Regional/Teaching Hospital (assisted by special hospitals) District Hospital Taluka/Tehsil Hospital Primary Health Centre Subcentres.

Even if the above machinery were effective the primary health centres, subcentres, and beds are too few in number to achieve the primary health care goals (see Table 7), and these shortfalls will present a serious problem to policy administrators for the next two decades.

	Present number	Requirement in 1979 as per norms	Requirement in 2000 as per norms
Primary health			
centres	5 400	12 925	16 850
Subcentres	38 115	51 742	67 400
Beds	495 871	646 779	917 100

Table 7. Health infrastructure requirements for the year 2000, India.

The machinery, however, is ineffective. Many States do not agree with the planning policies of the Central Government, and thus there are vast differences in the programming and delivery of services. Owing to lack of delegation, inadequate staffing at various centres, frequent transfers, and rigid rules and procedures, the staff is often dissatisfied and demotivated. As a result, the machinery is not adaptable and flexible enough to meet tomorrow's needs. The people are not involved in decision-making, and as a result programming is ineffective. The urbanized trained personnel find it difficult to adjust to local resources, and as a result lack acceptability and confidence.

Education and training programmes, both undergraduate and postgraduate, are said to be irrelevant to local health needs and aspirations. The health professionals, particularly those trained as specialists, prefer to do the work they are trained for rather than meet basic national health needs. Higher education tends to create a communication gap between professional personnel and primary health workers, as well as between the professionals and the unsophisticated people they should serve.

The established health associations, medical education associations, and professional institutions and organizations tend to resist changes such as the introduction of national health services, the training and employment of new categories of health manpower, and a greater role for primary health, and multipurpose health workers. Whatever the motives of these organizations, to defend their own interests or preserve cherished traditions, their resistance to change has serious repercussions on health plans, programmes, and policies. As a result, the multipurpose workers trained find it difficult to utilize their skills.

There are many measures that could be taken to improve the delivery of health services in India. Some of these are listed below.

- Changes should be made in the political machinery so that professionals from various disciplines can be drafted to, or selected for service in, various ministries, in order to facilitate more professional planning and programming.

- All health professionals, at various levels of the hierarchy, should commit themselves to health education for preventive health care for the next few years.

- District and Taluk health profiles need to be prepared immediately for effective health planning and programming.

- Health personnel at the peripheral level need to be given more authority, if they are to be responsive to the health needs of the community.

The budget allocated for training of health personnel (see Table 5) is very low - only Rs 1 890 million for 1978-79. Large numbers of personnel have to be trained to meet the changing health requirements, and a larger budget is needed.

- Under the community health workers' scheme, about 70 000 such workers have completed their training. The entire community is expected to be covered by 1982-83. The question is whether these personnel will be able to work as a team with the Primary Health Centres so as to fulfil their roles effectively.

- We have over 1 400 000 trained teachers in the country. They are the best agents of social change and should be encouraged to conduct health education courses in schools and extension courses in villages. They constitute the best resource for preventive health programmes. The Jammu and Kashmir Government has used them very successfully in its health education activities.

- Incentive schemes (both monetary and non-monetary) should be initiated so that decision-makers (social workers, doctors, administrators, etc.) are rewarded if they pursue efficiency and penalized if they misuse scarce resources.

- Medical and health professionals have tremendous power to influence and change. They can be very effective agents of change

in rural socioeconomic development. Apart from training in medicine, training in social disciplines can help them perform this role, for which motivation and high commitment are the necessary tools.

- In order to make the best use of the available manpower, the activities of all practitioners of the indigenous systems of medicine should be correlated with those of the health care delivery system in the country.

In conclusion, primary health care requires the development, adaptation, and application of appropriate health technology that the people can use and afford, including an adequate supply of low-cost, good quality essential drugs, vaccines, biologicals, and other supplies and equipment, as well as efficient supportive health care facilities, such as health centres and hospitals. These facilities should be reoriented to the needs of primary health care and adapted to the socioeconomic environment.

Jacobsen: My contribution to this conference will be to describe a relatively recent administrative proposal, from the Norwegian Ministry of Health and Welfare, that the cost of doctors' prescriptions under the drug reimbursement scheme should not exceed the cost of the cheapest generic products on the market.

The social subcommittee of Parliament endorsed this proposal, and in due course recommended that Parliament should do so, which it did on 8 December 1978. The proposition implied coverage of the cost of the cheapest variant only under the reimbursement scheme, which in Norway covers about 60% of the nation's drug bill. Neither the social subcommittee, nor Parliament, had at hand any evidence that could explain how such a measure could save NKr. 50 million ¹ in one year, far less whether the measures proposed might not lead to untoward effects on the patients concerned.

The bill was ready for implementation as of 1 January 1979. Its origin and objective are clear from the budget statement: 'There is increasing concern about the steadily rising drug expenses, and these should be cut.'

¹ 1 NKr. = approx. \$ 0.20.

	Amount reimbursed	Annual increase	Percentage increase
	NKr. (m	illions)	(%)
1974	255	-	-
1975	321	66	25.9
1976	381	60	21.8
1977	444	63	16.5
1978	510	66	14.9
1979	517	7	1.4
1980	551	34	6.6

	Table l.	Public	drug	expenses,	Norway,	1974	4-1980
--	----------	--------	------	-----------	---------	------	--------

Very seldom in Norway has a parliamentary bill met with such unanimous opposition from all interested parties. Representatives of the medical profession, pharmacists, the National Reimbursement Institution, and the drug industry all protested, and representatives of the national drug control body pointed to the negative implications of the draft text. These parties created a massive lobby, to convince the authorities and the politicians that the bill had to be amended.

	1971	1976	1977	1978
Total public health costs in NKr.				
(millions)	4 832	12 336	14 473	16 564
Per capita GNP in				
NKr.	1 230	3 084	3 618	4 141
Total costs relativ	е			
to GNP	5.4	7.3	7.6	8.0
Drug sales relative to GNP	0.59	0.60	0.61	0.61
Drug sales relative to costs of				
health care	10.9	8.3	7.9	7.5

Table 2. Public health care costs relative to gross national product (GNP), Norway, 1971-78

The first obvious misconception underlying the proposition is that the drug bill has been increasing, whereas in relative terms it has been decreasing. The absolute increase has been about NKr. 66 million annually over the last few years, which means a constant relative decrease in drug expenditure over the last ten years. A drastic cut in the drug bill was nevertheless proposed, allowing an increase from 1978 to 1979 of only NKr. 7 million, whereas the increase in outlay on drugs normally should have been about NKr. 60 million. These savings were supposed to be achieved by limiting prescriptions to generic drugs. However, less than 10% of the 2000 registered drugs on the market had a generic equivalent that was cheaper than its original counterpart. Thus, even if all doctors really prescribed the cheapest alternative, only about NKr. 11 million could be saved annually.

These possible savings were offset by the confusing effects a change of therapy could have on patients. Not only was there an important problem of bioequivalence, but also a significant problem of drug default, today representing about one-third of all prescriptions in the country. It was calculated that the extra explanations in general practitioners' surgeries, and the extra hospitalization due to problems of bioequivalence following changes of medication, would cost about NKr. 33 million. Representatives of the medical profession also pointed to the fact that the proposal could lead to changes from well established medication to much costlier treatment, such as hospitalization. In addition, there were the uncalculated extra costs arising at the pharmacy level from changes of medication, including discussions with patients, doctors, and the National Insurance District Offices, and extra administrative costs at the District Offices themselves. The drug industry pointed to the negative impact such a scheme would have on the industrial return on investment. at both the national and the international levels.

To summarize:

- The budget proposed savings on drugs representing NKr. 50 million.
- The proposed scheme could <u>never</u> save more than NKr. 11 million.
- Extra administrative costs linked to the implementation of the proposed scheme would represent NKr. 33 million.

154

- Uncalculated costs would be incurred at the pharmacy and National Insurance levels.
- There would be untoward effects on the drug industry's return on investment.
- The minimum loss due to the scheme would be NKr. 22 million.

Members of Parliament contacted during the winter and spring of 1979 were shocked when confronted with these facts and figures. Nearly all of them excused their passing of the bill by lack of information and heavy workload.

More recently, the Ministry of Health and Welfare, in a circular letter, asked doctors to be cost-conscious when prescribing drugs, and to assess whether on medical ground they could prescribe a generic alternative. It remains to see what effect this letter will have. Personally I do not think it will have much effect on the drug bill. Prescribing habits are hard to change. And I also think there are good reasons to look at other cost elements in the health field if one wants to save large sums of money, for drugs account for less than 8% of our health care costs.

However, the important point in this Norwegian example is that, despite a lack of any evaluation of the economic effects of the proposal and the subsequent lack of information to Members of Parliament, it was endorsed almost unanimously (only two dissenting voices) in December 1978.

The latest news in the reimbursement field for 1980 is that the Ministry of Health and Welfare will probably ask Parliament to adopt a budget under which patients must pay a part of the bill, even for drugs coming under the reimbursement scheme. That is probably a good thing. It will make patients cost-conscious, in a country where everybody expects health care to be able to draw on unlimited resources and services to be available without cost. However, the Ministry suggested at the same time that <u>no new drugs</u> should be added to the reimbursement list during 1980. This means that a lot of patients in Norway will not benefit from therapeutic drug developments in 1980. Already many people, including doctors and economists, have questioned the rationale for such a proposal.

All devoted professionals should make a point of ensuring that as much information as possible is available and readily comprehensible to administrators and to politicians to enable them to take well-founded decisions. To this end, much greater attention to research and information in the field of health economics is needed in the years to come.

A recurring theme at this conference is the Hodgson: need to utilize limited resources as effectively as possible in both developed and developing countries. Professor Abel-Smith describes the fundamental economic problem as the maximization of the health improvement that can be obtained from a given level of expenditure. Similarly, Dr Sebina sees a common goal among all countries with respect to the health status of their populations, which is 'to maximize the benefits derivable from limited resources'. Knowledge of the economic costs of illness in terms of the value of the resources used for diagnosis, treatment, and rehabilitation, and of the resources lost due to morbidity, disability, and premature mortality, is essential to the evaluation of alternative demands on scarce health resources and the attainment of economic rationality in health service policy, planning, and management.

In the aggregate, amounts spent for medical care are important in assessing, for example, inflation in medical care prices and the proportion of the gross national product (GNP) devoted to health care. It is also necessary, however, to take diseasespecific economic costs into consideration. Illness costs are helpful in measuring the impact of diseases on the use and loss of resources and are used in cost-benefit and cost-effectiveness analyses and other procedures to determine priorities for resource allocations and guide government policy decisions. The specification and quantification of the economic costs of disease promote more rational decision-making and are important for allocating scarce resources within the health sector and among different sectors of the economy.

Costs stemming from illness and disease include the values of resources used (direct cost) or lost (indirect cost), costs outside the health sector, social costs, and overall increases in costs throughout the economy. A brief description of these different types of cost follows.

A. Direct costs of diagnosis, treatment, continuing care, rehabilitation, and terminal care include: expenditures on hospitalization; outpatient clinical care; nursing home care; home health care; services of primary physicians and specialists, dentists, and other professionals; drugs and drug sundries; rehabilitation counselling and other rehabilitation costs such as those for prostheses and appliances to overcome illness-related impairments.

- B. Indirect costs result from losses in output, as time is lost from work and housekeeping because of morbidity and premature mortality. The measure of output loss is earnings and the imputed market value of housekeeping services. Illness may also adversely affect productivity, in addition to causing time to be lost from work. Illness may lessen productivity at work, and absenteeism may increase the costs of production resulting in a decline in the value of output per unit of input.
- C. Direct costs outside the health sector borne by patients and other individuals include costs of transport to health providers, certain household expenditures, costs of relocation (moving expenses), and certain property losses. Transport costs could be incurred not only for local transport to hospitals, clinics, physicians, etc., but also for transport to other areas, including out-of-area living costs. Illness in a family can involve it in a great deal of expense, including the cost of household help for cleaning, laundering, cooking, and babysitting; special diets; special clothing; items for rehabilitation and comfort such as exercycles. etc.; alterations to property such as the installation of elevators and other special facilities; and vocational, social, and family counselling services. The property losses include destruction of property resulting, for example, from alcoholism and alcohol abuse (road accidents) and criminal activity due to drug addiction. In addition, property may lose value because of risks to health due to environmental conditions such as air and water pollution or the proximity of solid waste areas or of nuclear power plants. Other costs originating in disease or illness are expenditure on retraining or reeducation, and free or reduced-fee care provided as charity by hospitals and other institutions, physicians, family, and friends. Indirect costs include the time spent visiting physicians, other health professionals, and hospitalized persons by patients and/or family members, and time lost from work by family members when

someone in the family is ill. Unwanted job changes and loss of opportunities for promotion and education due to illness may reduce productivity and result in indirect costs.

- Social costs take the form of a wide variety of psycho-D. social deteriorations resulting from illness and disease. Victims of disease, their children, spouses, and siblings, their friends and co-workers, and care-givers may all be affected. Disease may bring about personal catastrophes that are not reflected in the direct and indirect economic costs usually estimated for a specific disease, although some social costs may increase both the direct and the indirect costs pertaining to different diseases. Α victim may suffer as a result of loss of speech or a part of the body, disfigurement, disability, the sense of impending death, pain, and grief. He and those around him may be forced into economic dependence and social isolation, unwanted job changes, loss of opportunities for promotion and education, relocation of living quarters, and other undesired changes in life plans. The environment created by illness often induces anxiety, lowered self-esteem, reduced sense of well-being, resentment, and emotional problems that often require psychotherapy. Problems of living may develop, leading to family conflict, antisocial behaviour, and suicide. The victim and others may experience marked personality changes and reduced sexual function. Disrupted development and delinquency may occur among children. The quality of life may be reduced beyond the restorative capability of current rehabilitation efforts. The combination of financial strain and psychosocial problems is especially devastating.
- E. Both in the short run and the long run, illness and disease have a significant impact on costs throughout the economy. In 1978, the USA spent \$192 billion, or 9.1% of GNP, for health care (5). Resources used for health care are diverted from other uses. The allocation of resources has repercussions on employment, investment productivity, prices, and distribution of GNP in the health care sector and other sectors of the economy. The level of morbidity and mortality has cumulative long-run effects through the size of the work-force and the resulting economic interactions (8). To estimate the impact of such factors, it is necessary to understand the primary and secondary

relationships and interplay between disease and economic variables.

Current methodology and data permit the estimation of only a portion of all the costs incurred in the USA as a result of illness and disease. The greatest progress has been made with respect to direct and indirect economic costs related to treatment (2). But, even in this area, gaps remain and lifetime costs are not known for many diseases. As regards social costs and primary and secondary costs throughout the economy, only a scant beginning has been made. If health costs are to be estimated reasonably completely, and with confidence, a determined effort must be made to improve existing methodology and data bases and develop new ones.

Table 1 illustrates the current capability for estimating direct economic costs in the USA, by type of medical care expenditure, for all diseases in the aggregate and for specific diseases, such as neoplasms. Table 2 shows indirect economic costs in the fiscal year 1975 resulting from the cessation or reduction of productive activity due to morbidity and mortality, including the present discounted value of future output lost because of premature mortality. Losses resulting from morbidity can be estimated for the currently employed, females keeping house, those unable to work, and the institutionalized population. Table 3 shows that certain direct and indirect economic costs can be estimated for more specific disease categories, such as selected cancer sites, as well as for broad disease classifications such as 'All neoplasms'.

In addition to neoplasms, direct and indirect economic costs have been estimated for the following disease categories (2, 10):

Infective and parasitic diseases Endocrine, nutritional, and metabolic diseases Diseases of the blood and blood-forming organs Mental disorders Diseases of the nervous system and sense organs Diseases of the circulatory system Diseases of the respiratory system Diseases of the digestive system Pregnancy, childbirth, and the puerperium Disease of the skin and the subcutaneous tissue Diseases of the musculoskeletal system and connective tissue Congenital anomalies Accidents, poisonings and violence Other

For the nation as a whole, across the broad spectrum of disease categories, current methodology provides an estimate of the direct and indirect economic burden resulting from the prevalence of disease during a given period of time, most often a year. In addition to costs associated with the prevalence of disease, it may be important to know the cost per case of disease from onset until cure or death. This makes it possible to measure the savings or benefits to be gained by preventing a new case of disease. The reduction in health costs resulting from incremental changes in conditions that lower the incidence of disease can then be determined. These costs are difficult to estimate, however, as they require knowledge of the likely course of a disease, the medical care that will be used, the amount of disability and debility, the time between onset and death or cure, and the impact of morbidity and mortality on earnings. These factors vary greatly, even within a specific disease category - for example, in the case of cancer, they will depend on organ site, histological type of cellular change, and stage of disease development when treatment commences. Attempts to estimate costs per case of a disease are hampered by limitations of data and knowledge.

In estimating the economic burden resulting from the prevalence of disease, the present discounted value of future losses due to mortality, and morbidity when appropriate, are calculated. In estimating the economic burden associated with the incidence of disease, or the lifetime costs of a disease from onset until cure or death, the present value of future direct costs must also be calculated. For any new case of a disease, both direct and indirect costs may occur in subsequent years, as the patient may require treatment and lose time from work for a number of years. The total cost is the sum of the present discounted values of all direct and indirect costs due to morbidity and mortality.

Some costs outside the health sector can be estimated, although, given the data available, not necessarily for specific diseases. Although not a complete evaluation, a recent study found that such costs add at least 12% to total direct and indirect economic costs ⁽⁹⁾. These costs are substantial and form an important part of costs stemming from illness and disease.

		Expenditure for									
		All dis	eases a	Neop	Neoplasms relative to all diseases						
Type of expenditure	Expendi- ture in US\$		Distri- bution	Expendi- ture in US\$			Distri- bution				
	(mi	llions)	(%)	(millions)	(%)	(%)					
Total	99	373.2 b	100.0	5 278.9	100.0	5.3					
Hospital care Physicians'	46	414.9	46.7	4 134.2	78.3	8.9					
services Other profess-	22	099.9	22.2	671.2	12.7	3.0					
ional service Drugs and drug	es l	453.5	1.5	50.1	1.0	3.4					
sundries Nursing home	10	604.9	10.7	202.7	3.8	1.9					
care Dentists'	9	000.0	9.1	220.7	4.2	2.5					
services Eveglasses and	7	500.0	7.5								
appliances	2	300.0	2.3								

Table 1. Estimated direct expenditures, with percentage distribution, for all diseases and neoplasms, and expenditure for neoplasms relative to all diseases, by type of expenditure, USA, fiscal year 1975.

^a Based on US Social Security Administration's preliminary estimates for fiscal year 1975.

^b Excludes unallocated expenditures for prepayment and administration, government public health activities, other health services, research, and construction.

... Not applicable.

Source: Paringer, L. & Berk, B. ⁽¹⁰⁾.

Disease categor	у,		10% dis	count	6% discount					
type of cost, and demographic	Amou	int	Di	stribution	Amount	Distribution				
characteristics	in US\$		by type of cost	by demographic characteristic	in US\$	by type of cost	by demographic characteristic			
	(millions		s) (%)	(%)	(millions)	(%)	(%)			
All diseases										
Total ^a	120	375	100.0		145 774	100.0				
Morbidity	57	846	48.1	100.0	57 846	39.7	100.0			
Currently										
employed	21	303	17.7	36.8	21 303	14.6	36.8			
Females keeping										
house	4	384	3.6	7.6	4 384	3.0	7.6			
Unable to work	24	410	20.3	42.2	24 410	16.7	42.2			
Institution-										
alized	7	7 50	6.4	13.4	7 750	5.3	13.4			
Mortality	62	529	51.9	100.0	87 925	60.3	100.0			
Male	44	210	36.7	70.7	62 328	42.8	70.9			
Female	18	318	15.2	29.3	25 598	17.6	29.1			
Neoplasms										
Total a	13	654	100.0		17 079	100.0				
Morbidity	1	105	8,1	100.0	1 105	6.5	100.0			
Currently										
employed		422	3.1	38.2	422	2.5	38.2			
Females keeping										
house		194	1.4	17.6	194	1.1	17.6			
Unable to work		440	3.2	39.8	440	2.6	39.8			
Institution-										
alized		49	0.4	4.4	49	0.3	4.4			
Mortality	12	549	91.9	100.0	15 974	93.5	100.0			
Male	7	508	55.0	59.8	9 454	55.4	59.2			
Female	5	041	36.9	40.2	6 520	38.2	40.8			

Table 2. Estimated indirect costs and percentage distributions of all diseases and neoplasms by discount rate, according to type of cost and demographic characteristics, USA, fiscal year 1975.

... Not applicable.

^a Numbers and percentages may not add up to totals because of rounding. Source: Paringer, L. & Berk, B. ⁽¹⁰⁾,

162

Table	3.	Costs	rela	ating	to n	eopl	lasm	s: e	stim	ateo	l ex	pend	litur	es,
with	perce	entage	dist	ribut	ions	, fo	or sl	iort	-sta	y ho	ospi	tal	care	and
physi	cians	s' ser	vices	s, and	l ind	irea	ct co	bsts	of	mort	ali	ty a	at 6%	and
10% d	iscou	int ra	tes,	accor	ding	to	sit	e or	typ	e, l	ISA,	ca]	lenda	r
year	1977.													

Site on two	Expendi	tures for	Indirect costs of mortality					
of neoplasm	short stay hospital care	physicians' services	6% discount	10% discount				
		(Amount in US\$ millions)						
Costs								
All sites a	5 768.1	1 560.7	18 842.1	14 845.6				
Digestive organs	956.0	143.0	3 822.2	3 128.0				
Respiratory organs	632.8	97.7	4 952.3	4 090.7				
Skin	125.5	57.8	476.7	359.7				
Breast	479.6	105.6	1 866.6	1 460.8				
Female genital organs	412.7	92.6	1 077.9	843.9				
Male genital organs	256.8	64.2	480.7	381.5				
Leukaemia	164.2	29.9	1 064.6	709.0				
All other malignant								
neoplasms	1 591.2	324.7	4 789.0	3 650.0				
Benign and unspecified	L							
neoplasms	1 149.4	645.2	312.1	222.1				
Distribution	(%)	(%)	(%)	(%)				
All sites a	100.0	100.0	100.0	100.0				
Digestive organs	16.6	9.2	20.3	21.1				
Respiratory organs	11.0	6.3	26.3	27.6				
Skin	2.2	3.7	2.5	2.4				
Breast	8.3	6.8	9.9	9.8				
Female genital organs	7.2	5.9	5.7	5.7				
Male genital organs	4.5	4.1	2.6	2.6				
Leukaemia	2.8	1.9	5.7	4.8				
All other malignant								
neoplasms	27.6	20.8	25.4	24.6				
Benign and unspecified		(2.2						
neoplasms	19.9	41.3	1.7	1.5				

^a Numbers and percentages may not add up to totals because of rounding.

Source: Hodgson, T.A. & Rice, D.B. Economic impact of cancer in the United States, 1977. National Center for Health Statistics, Department of Health, Education, and Welfare, Hyattsville, Maryland, 1979.

Some social costs can be measured, such as the influence of mortality on the family and its life cycle (3, 13). Consequences of disease such as divorce rates, duration of marriage, probability and duration of widowhood, probability of orphanhood (11), changes in residence, and loss of employment can also be measured. To a large extent, however, indicators and methodology for determining social costs remain to be developed. There is a need for indicators of the impact of sickness on a person in terms of his or her own sense of well-being, taking into account evaluations by the patient's family and associates as well as the patient himself. Such indicators must reflect the reduction in selfesteem and the emotional problems, pain, and suffering caused by the loss of body parts, disability, social isolation, economic dependence, sense of impending death, and otherwise lowered quality of life that often accompany diseases such as cancer, for example.

Although direct indicators of social costs and quality of life are not available, and considerable methodological research and data collection are necessary if social costs are to be adequately quantified, some progress has been made in this area. A number of scales have been developed to assess the rehabilitation of patients by measuring functional status. The Performance Status Scale assesses mobility and ability to carry out usual roles. More comprehensive measures of functional status are the Pulses Functional Profile and Barthel Index (6). Pain and suffering could be measured by frequency, duration, and severity of pain as indicated by the potency of the drugs needed for relief. Suicidal behaviour and mental illness or psychiatric care could measure grief, worry, and emotional stress. Also of interest is the Sickness Impact Profile, developed at the University of Washington and the Group Health Cooperative of Puget Sound, which attempts to measure behavioural expressions of sickness (1, 4).

Nevertheless, the quantification of social costs remains rather an intractable matter. First, there is the problem of constructing valid quality-of-life indicators and collecting the necessary data. Second, there is the difficult task of integrating non-monetary information on qualify of life with monetary estimates of direct and indirect economic costs. Nevertheless, social costs are a significant, and very likely quite large, component of the total burden of illness. To ignore, or misrepresent them could result in an underestimation of the impact of disease and bias the decision-making process. Even if monetary

values cannot be attached to many, if not most, social costs, they should be quantified in non-monetary terms whenever feasible. For example, where appropriate, the frequency of job loss, change in residence, etc. could be given.

Although reductions in morbidity and mortality, if sufficiently large, would have short- and long-run repercussions throughout the economy, determining these repercussions is not an easy matter. Technical linkages among the different sectors of the economy and within the health sector must be specified. Growth models and macroeconomic models are available, but there is some doubt whether the health care sectors are specified in sufficient detail. Even if the linkages can be specified in detail, massive data bases not currently available may then become necessary.

The existing methodology and data for calculating national estimates of costs of illness across the broad spectrum of disease categories provide an estimate of the economic burden resulting from the prevalence of disease. Included are costs of resources used during the year for prevention, diagnosis, and treatment; output lost during the year because of morbidity; and output lost owing to deaths during the year. Because a death means lost output in future years, the present discounted value of the future losses is also counted.

Economic costs are a potential benefit of reduced morbidity and mortality. Direct costs include resources that could be allocated to other uses, and indirect costs include the value of idle resources and lost output. Cost-of-illness estimates are an essential input to the evaluation of alternative demands on scarce health care resources. As already indicated, cost-ofillness studies are used in cost-benefit and cost-effectiveness analyses and other procedures used to determine priorities and guide government policy decisions. Demands for cost-of-illness estimates have arisen, however, that will not be satisfied completely by the existing methodology.

Early in 1978, a Task Force comprised of representatives from the US Public Health Service was formed by the Deputy Assistant Secretary for Health Research, Statistics and Technology, Office of the Assistant Secretary for Health, to deal with matters pertaining to cost-of-illness methodology. This Task Force was entrusted with systematically reviewing cost-of-illness activities in the Public Health Service and recommending methodological guidelines so that, in future, a consistent methodology will be employed and the results of different studies will be comparable. Its aims reflect the increased recognition by policy-makers and programme managers that cost-of-illness estimates are an essential input to the evaluation of alternative demands on our scarce health care resources. They also reflect concern lest the usefulness of cost-of-illness studies has suffered from a lack of consistency a problem resulting, at least in part, from the lack of accepted methodological guidelines.

The Task Force's efforts have resulted in a document containing a set of guidelines for cost-of-illness studies in the Public Health Service (7); these will serve as a useful framework for improving future cost-of-illness studies. The guidelines are sufficiently flexible to permit the objectives of individual costof-illness studies to be achieved, at the same time ensuring that the results of separate studies will be consistent and comparable.

As an outgrowth of the deliberations of the Task Force, the National Center for Health Services Research, in cooperation with the Task Force, is now undertaking a systematic review and comparative evaluation of all major cost-of-illness studies. By providing an assessment of the current situation, this work will permit the formulation of recommendations for improving the quality of cost-of-illness studies.

The Health Services Research, Health Statistics, and Health Care Technology Act of 1978 (Public Law 95-623) calls for a study of present and anticipated health costs due to pollution and other environmental conditions resulting from human activity, and the reduction in such costs that would result from incremental reductions in pollution and other environmental conditions. This study is to be conducted jointly by the US Department of Health, Education, and Welfare and the Institute of Medicine of the National Academy of Sciences, in cooperation with other appropriate entities of the Federal Government. It will be ongoing, with the first report to Congress due in 1980 and subsequent reports every two years thereafter.

The law requires identification of deleterious pollutants and other environmental conditions and ascertainment of the extent to which the identified pollutants and environmental conditions cause, contribute to, increase susceptibility to, or aggravate disease. Health costs to be quantified include direct and indirect economic costs, social costs such as may be attributable to pain and suffering, and overall increases in costs throughout the economy.

The Act is extremely comprehensive as regards the range of pollutants and environmental conditions, types of costs, and diseases to be studied, and in requiring estimates of not only present, but also anticipated health costs. Its execution is a challenging task, but it can provide the impetus for greatly extending estimates of costs of illness.

Certain extensions of the usual treatment of direct economic costs could provide additional insight into costs of disease. For cancer these would concern: a) costs distributed by the stage or extent of the disease at initial diagnosis (e.g., whether localized or not), by method of treatment (surgery, radiotherapy, chemotherapy, etc.), or by provider characteristics such as the physician's experience of treating cancer, the hospital services available, and whether care is provided by an institution specializing in cancer; b) costs distributed over diagnosis, treatment, and rehabilitation; c) costs per person with cancer, including lifetime costs of the disease; and d) costs by source of payment, particularly out-of-pocket costs not covered by third parties. Estimates of the type envisaged have not yet appeared in the literature, and at least some of the required data have not been readily available.

The US National Cancer Institute and National Center for Health Statistics are jointly organizing a national household survey of costs of cancer, including a) - d). The first phase is a pilot study to test a new methodology designed to increase the response rate to acceptable levels. If the pilot study is successful, a national study will be undertaken. This would have two important results: a) the accuracy of current methods based upon secondary sources could be ascertained, and b) it would be possible to estimate costs for which data are not available from secondary sources.

In this way it is hoped to obtain: a) a determination of differences in patient costs and costs to society from early cancer diagnosis as compared with diagnosis at a late stage of tumour development; b) a baseline set of costs for different treatment and rehabilitation procedures, making it possible to compare the effect that future changes in these procedures will have on costs;

c) a baseline set of data to guide new cancer control activities as regards the selection of cost-effective approaches and their evaluation after field tests or demonstrations; d) an insight into areas of the USA where proven, beneficial interventions are not generally used so that cancer control programmes can concentrate their projects accordingly; and e) information for policymakers on the specific costs for cancer, the areas of care that contribute the major costs, and those who bear the costs.

The US National Center for Health Statistics is now investigating a) the feasibility of developing methods and procedures for extending cost-of-illness determinations to include costs associated with the incidence of disease, primary and secondary repercussions throughout the economy, and social costs; b) the feasibility of improving the basis for determining the discount rate and allocation of costs among joint diseases and between antecedent and subsequent diseases; c) the data necessary for implementing the recommended extensions and improvements in methodology and the feasibility of obtaining these data.

In addition to the gaps existing in cost-of-illness estimates - i.e., as regards costs associated with the incidence of disease, repercussions throughout the economy, and social costs - there are methodological problems that apply even to the costs that can be calculated. Several diseases may occur simultaneously, making it difficult to allocate costs. Also, one disease may bring about another disease or illness, so that part of the cost of the latter should be included in the cost of the former. Diabetes causes other chronic conditions such as blindness, heart disease, and other vascular disease. Similarly, arthritis may be a complication of psoriasis, and it has been reported that psoriasis may increase the incidence of alcoholism and suicide. Various physical ailments, including cancer, may result from alcohol abuse, and digestive diseases can contribute to heart, lung, or kidney failure. Unless that portion of the costs of one disease that occurs because of an antecedent disease is identified, the estimated costs will be inaccurate, and double counting may occur if costs for several diseases are aggregated. Because diseases are interconnected, a simple summation of the costs of individual diseases may exceed the total cost attributable to disease.

There is disagreement on the proper conceptual basis for the discount rate that converts future money values relating to public sector projects into present values. Some experts favour social

168

rate of time preference, i.e., society's rate of trade-off between present and future benefits. The criterion of social rate of time preference gives a relatively low discount rate. Another school of thought considers that the discount rate must reflect the opportunity cost of using resources in the public sector, the rate of return foregone in the private sector by transferring funds to the public sector being the appropriate discount rate. The opportunity cost criterion gives a relatively high discount rate.

The goals of the study by the National Center for Health Statistics will be to develop methods, procedures, and models for: a) estimating the economic burden associated with the incidence of disease, i.e., the lifetime costs, or costs per case of disease from onset until cure or death, and the savings or benefits that would result from preventing a new case of disease; b) specifying technical linkages within the health sectors and among sectors of the economy for estimating the impact of disease throughout the economy, including, but not limited to, repercussions on employment, investment, productivity, prices, and GNP in the health care and other sectors, in the short run and long run, and also longerterm considerations such as the impact of changes in the age distribution of the population and in the ratio of elderly persons to those in the productive years; c) accounting for interrelationships between diseases and adjusting cost estimates accordingly; d) estimating the time preference and opportunity cost components of the discount rate and determining whether a synthesis of the concepts of time preference and opportunity cost is possible in order to determine a unique value for the discount rate.

Finally, the study will ascertain current progress in measuring quality of life and social costs and determine which indicators are potentially useful for measuring aspects of the impact of illness on the victim, the victim's family and associates, and Among the indicators deemed to be useful, the study society. will determine those for which data are available for calculating national estimates and disease-specific estimates of repercussions on quality of life and social costs, and those that can be combined into one or more indexes. It will also determine whether economic values can be placed on indicators pertaining to social costs, and if so, develop methods and procedures for quantifying them in monetary terms. For indicators that cannot be quantified in monetary terms, the study will determine whether non-monetary values can be integrated with the economic values estimated for

direct and indirect costs. For indicators of social costs that can be integrated with economic costs, methods and procedures for integrating economic and social costs of disease will be developed, if feasible.

At the meeting of the WHO Expert Committee on Cancer Statistics in 1978, the participants acknowledged the need to estimate the social and economic implications of cancer and recognized that increased effort is needed to develop the necessary methods and data. They recommended the establishment of a subcommittee of the WHO Expert Committee on Health Statistics to review the methodology of studies of the social and economic costs of disease, including cancer (12).

Research on ways of estimating the costs of illness and disease is receiving increased emphasis and support. It is expected to enable us to expand the range of estimates and increase our knowledge of the costs of illness and disease, and thus to employ our scarce resources more effectively.

References

- (1) Bergner, M. et al. Int. J. Health Serv., 6: 393-415 (1976).
- (2) Cooper, B. S. & Rice, D. P. <u>Soc. Secur. Bull.</u>, <u>39</u>, 21-36 (1976).
- (3) Feichtinger, G. & Hansluwka, H. <u>The impact of mortality on</u> <u>the life cycle of the family</u>. <u>Mexico City</u>, International <u>Union Scientific Study of Population</u>, IUSSP Conference, 1977.
- (4) Gibson, B. S. et al. <u>Am. J. Public Health</u>, <u>65</u>: 1304-1310 (1975).
- (5) Gibson, R. M. Health Care financ. Rev., 1: 1-36 (1979).
- (6) Granger, C. V. & Greer, D. S. <u>Arch. phys. med. Rehabil.</u>, 57, 103-109 (1976).
- (7) Hodgson, T. A. & Meiners, M. R. <u>Guidelines for cost of</u> <u>living studies in the Public Health Service</u>. Washington, DC., <u>Public Health Service Task Force on Cost of Illness Studies</u>, 1979.

- (8) Mushkin, S. J. & Landfeld, J. S. <u>The economic benefits of improvements in mortality experience</u>. Washington, DC, Public Services Laboratory, Georgetown University, 1978.
- (9) Mushkin, S. J. & Landfeld, J. S. <u>Non-health sector costs</u> of illness. Washington, DC, Public Services Laboratory, Georgetown University, 1978.
- (10) Paringer, L. & Berk, A. <u>Costs of illness and disease</u>. <u>Fiscal year 1975</u>. Washington, DC, Public Services Laboratory, Georgetown University, 1977.
- (11) Preston, S.H. Soc. Biol., 21: 144-162 (1974).
- (12) WHO Technical Report Series, No. 632, 1979. (Cancer statistics. Report of a WHO/IARC Expert Committee).
- (13) World Health stat. Rep., 29: 220-234.

OPEN DISCUSSION

Senanayake: emphasized the serious adverse effects of rapid population growth on development in general and health services in particular, notably high mother and child morbidity and mortality related to repeated and inadequately spaced births. Appropriate interventions to cope with these problems involve all the aspects of health care so far discussed : changes in attitude and behaviour, distribution and availability of health services, and manpower training and development.

argued that, given the overwhelming Logan: importance of staff in the health services, any discussion of economics, manpower, and technology must look at the productivity of manpower. He showed transparencies indicating the numbers of staff - medical, nursing, medical-technical, and other supporting staff - in typical general hospitals in England, Northern and Southern Ireland, Portugal, and Sweden and related these to beds, There were considerable variations in staffand to admissions. ing per bed and in annual admissions per member of staff in the various categories. While such ratios provide an initial statistical approximation of staffing levels and patterns and of staff productivity, it is extremely crude and superficial. What is needed is a more detailed and specific set of indicators, taking into account not only the functions of each staff category and the complete staffing pattern, but the mixture and severity of diagnoses treated. All these elements have been measured in different places, and what is required is a practical effort to combine such analyses at the local level where the decisions are taken. If this can be done, it will be the first step in a very useful evaluation of hospital productivity and functioning.

Gellhorn: recalled that several speakers had identified physicians as being among the major decision-makers in incurring health service expenses and had suggested that somehow they should define the conditions in which care should be limited. He argued that all of us, when we are ill, assume that our doctors will do everything possible for our benefit, and cautioned that we would all feel very uncomfortable if that fundamental ethical principle were destroyed. With regard to the uncontrolled development and application of medical technology, he suggested that one method of control would be to subject new technologies to procedures and regulations similar to those applied to the development of new drugs. At the operational level, decisions by junior doctors account for a significant proportion of hospital costs. In the USA, a number of hospitals have been testing routine information systems which provide junior doctors with data on the costs of the procedures, drugs, and materials they have ordered for their patients, at the end of each day. Mere knowledge of the cost of each item has been effective in reducing needless use of expensive procedures, and periodic review of such cost data by senior medical staff reinforces this consciousness. Published results from these experiments showed dramatic reductions in the costs incurred by junior doctors. Another successful information experiment, undertaken in some parts of New York, has concentrated on providing community-based doctors with morbidity and mortality information about their respective neighbourhoods, so that they know the patterns of morbidity for the populations they serve and the way in which these patterns change over time. Such information aids them in planning their intervention strategies more rationally and in evaluating the effectiveness of their interventions.

Zweifel: commented that, in the absence of an objective definition of medical need, it must necessarily be defined by society, and not exclusively by the physician, who will tend to demand the latest technology and the most skilled staff. He suggested that, for practical purposes, need exists, in health or any other field, when resources are lacking for a project that, as shown by cost-benefit analysis, will provide a net benefit. He therefore advocated more extensive application of cost-benefit analysis in the health field. However, effective cost-benefit

172
OPEN DISCUSSION

analysis depends on developing adequate methods for measuring health status and, despite considerable progress in recent years, much remains to be done in this connection. Research in this field should therefore continue to receive top priority. Finally, he pointed out that in the final stage, that of evaluating the worth of given improvements in health status, it must be inferred from existing decisions, that these rightly include the evaluations of all the parties involved, and not merely those of doctors.

Gomaa: made a plea for realism in health planning, and notably for careful analyses to ensure that the necessary staff, materials, and finance would be available to run proposed new facilities in the long term. Long-term considerations are also important in plans for educational institutions, especially expensive ones like medical schools. Anticipated shortages of doctors are commonly met by creating more medical schools, without sufficient consideration of the possible effects of these schools and their graduates on the costs of the health sector. The situation is commonly exacerbated by inadequate definitions of the functions of different categories of manpower, so that highly trained personnel are used for tasks that could be properly performed by less elaborately trained staff. Although much has been done to reduce this kind of inefficiency, many tasks are still performed by physicians or trained nurses that could be done at much lower cost by the proper use of auxiliary personnel. The reverse type of inefficiency may also occur, when expensive and complex equipment is left to be handled by poorly skilled personnel. These problems must be viewed in the overall context of replacing inappropriate hospital-based high technology services by communitybased care, and even self-care. Inadequate planning and management, often linked to poor information, frequently result in wasteful and inappropriate expenditure on non-priority areas, and poor coordination between providers. Foreign aid should also be integrated into national health plans in such a way that it leads neither to waste in investments, nor to distortions in the balance of services provided.

Logan: ional Council of Nurses had endorsed the Alma-Ata Declaration of the Member States of WHO, and had followed this up at the biennial meeting of the ICN in October 1979, by a workshop on the role of nursing in primary health care. This workshop produced a framework for a plan of action to be applied by the 89 member associations of the ICN in developing their own contribution to primary health care; the progress made will be reviewed at the next biennial meeting of the ICN in 1981. A key component of the

OPEN DISCUSSION

plan of action is a critical review of the nursing profession, not only in relation to nursing activities <u>per se</u>, but in the context of health in general. Ms Logan suggested that other professions might like to follow this lead in reviewing their own roles and activities. Another major component of the plan of action is the review of educational curricula for nurses, with a view to redressing the balance somewhat from disease to health, including the potential contribution of nurses to health education, and ways in which they might collaborate with other health service staff, such as community health workers, and with patients themselves. Given the preponderance of nursing staff in most health services in developed and developing countries, Ms Logan felt that such a change of emphasis in the role of nurses could have a major impact in influencing health services away from a disease and hospital orientation towards a more health-oriented approach.

Fernandez de Talens: noted that the new Italian health service law developed Article 32 of the Italian Constitution, in declaring that every individual had an equal right to health and health services throughout the country. This right is now being translated into legal, organizational, and working procedures in the implementation of the new Italian national health service. Routine evaluation of the efficiency and effectiveness of the services provided will be an integral part of the new system.

Khan: asked if Professor Sahni would provide a reference to his statement that 98% of drugs supplied in India are substandard. Secondly, he supported Dr Gellhorn's point that doctors will modify their own behaviour if supplied with appropriate information. This has been shown in Europe and America in the field of pharmaceutical prescribing, where information provided to doctors about the costs and types of drugs they are prescribing has significantly modified their prescribing patterns.

Peretz: elaborating on Tables 1 and 2 of Mr Teeling-Smith's paper, said that, though expenditure on pharmaceuticals had gone up in absolute terms, it had declined substantially as a percentage of total health care expenditure. Secondly, he pointed out that the high proportion of health service expenditure devoted to pharmaceuticals in many developing countries arose primarily from the very small amounts spent on health services, rather than from excessive drug prices or consumption of drugs. From this perspective, it could be argued that many developing countries spend too little on other health service inputs, such as nurses and diagnostic services, rather than too much on drugs.

OPEN DISCUSSION

Health services clearly involve a variety of important inputs, and it is of little use including sophisticated high technology drugs in a developing country's list of essential drugs, if the country cannot arrange to provide the necessary staff and equipment to diagnose the diseases for which the drugs are intended and to use the drugs appropriately. The inappropriate use of drugs in these conditions is a matter of considerable concern to the pharmaceutical industry, and it is clear that drugs should be regarded as one input among others that go to make a successful health service.

Kalimo: agreed with previous speakers that the magnitude of health sector expenditures, and the importance of health in contemporary society, more than justified research into the provision and use of health services. Clearly, not enough is known on the subject, and more health services research is essential both to guide policy and planning decisions and to help in the development and evaluation of appropriate organizational systems for health care delivery. This is now recognized in the research programmes of many European countries, and in the research programme of the European office of WHO, and health economics research is one of the priority areas within the overall field. The proper promotion and planning of health services research, to ensure its effective development and application, therefore form a crucial element in the development of future health systems.

Sahni: replying to Dr Kahn's question, said that his figure of 98% substandard drugs applied to those distributed in the rural areas, in the primary health centres. He noted that the Hathi Commission's report clearly pointed out the problems of the distribution of substandard drugs, and commented that systematic surveillance was difficult in the absence of reliable statistics on the production and sales of drugs. He added that the fact that there is a high proportion of substandard drugs among those distributed was confirmed by a recent study he had himself conducted of primary health centres, and that health service directors who attempted to intervene to improve the situation frequently encountered severe political opposition.

Teeling-Smith: supported the points made by Mr Peretz during the discussion and expressed confidence that the recently developed cooperation between the research-based pharmaceutical industry, WHO, and developing countries would considerably ease the problems raised by Professor Sahni and ensure that proper high standard drugs will become available for use within the Third World much more rapidly than might have been thought until recently. Chernichovsky: felt that it was important to distinguish between feasible objectives for the medical care system and some abstract ideal concept of need, which, as an economist, he felt unqualified to define. He also warned against an overreliance on cost-benefit analysis, bearing in mind the discrepancies between apparent willingness to pay and actual ability to pay. Finally, he pointed out that proposals to base health service objectives on manpower availability were circular, in that someone had to define manpower requirements, and this ultimately meant defining health service needs.

emphasized the difference between the Kleczkowski: theoretical efficacy of a particular intervention strategy and its actual effectiveness in the field. He noted that there were far too many examples of uncritical transfer of technology from one setting to another, leading to considerable waste and inefficiency, e.g., a hospital that is both appropriate and effective in a developed country could easily absorb 100% or more of the health budget of a developing country to which it was offered as a gift. Secondly, he noted that traditional technologies could be incorporated into the health services in two ways. First, when they meet the criteria of scientific soundness, as in the case of acupuncture, some herbal medicines, or even ayurvedic medicine, they could be accepted per se as appropriate technology. Secondly, practitioners of traditional medicine could often be used to deliver modern scientifically-based care, as in the case of traditional birth attendants trained in aseptic delivery techniques.

THIRD SESSION

ECONOMICS, HEALTH SERVICES ORGANIZATION, AND FINANCE

Moderator: E. Aujaleu

HEALTH SERVICE ORGANIZATION AND FINANCE: OPTIONS AND IMPLICATIONS

M. I. Roemer

Patterns in the organization or delivery of health services are inevitably influenced by the methods whereby the services are financed. Financing, however, is not the <u>only</u> influence on patterns of health care delivery. There are many other influences -- technological on one hand, and political on the other. The latter kind, I think, may be best understood in terms of a long struggle, both historical and international, between two basic concepts of health service, which may be epitomized as entrepreneurialism versus equity. Complicating this is the influence of technological invention and development. In this paper, I shall try to clarify the worldwide operation of these dynamics shaping health care systems and subsystems, as I interpret them.

A Simplified Economic Model

If we ignore the operation of sociopolitical forces, and also the influence of technology, we can draw a highly theoretical model of the relationships between health care financing and health care organization looking something like this:



A Model of Health Care Relationships

Each of the two axes of this graph represents a continuum. The vertical financing axis moves from the most personal form of economic support to the most collective form. The horizontal axis, representing health care delivery, moves from the most individualistic to the most highly organized pattern. On each axis I have marked five steps -- on the financing axis, from the completely 'personal' to the completely 'collectivized', and on the delivery axis, from the completely 'individual' to the completely 'organized'.

To put a little more substance on this skeletal framework, the five steps along the financing axis might be interpreted to mean that money for health care may be derived in ascending steps from the following sources:

- 1) Personal or private household assets
- 2) Charity or philanthropy
- 3) Cooperative groups or voluntary insurance
- 4) Social or mandatory insurance
- 5) General revenues or public taxation

Along the health care delivery axis, the graded steps may be interpreted according to the following:

- 1) Individual one-to-one provision of care
- 2) Organized care for the seriously sick in hospitals
- Organization of ambulatory as well as institutional service
- Comprehensive health care organization for insured populations
- 5) Comprehensive systematic health care for everyone

Thus, if this simple linear model of relationships were a valid representation of the health care world, we would observe the following:

 Personal financing of health care would be associated with individual delivery of services, involving a simple one-toone relationship between patient and healer.

 Charitable financing would be linked to the organization of hospitals -- with large numbers of personnel working together -- for the medical care of the seriously sick.

3) Voluntary insurance or mutual cooperative funds would yield increased organization of health care delivery, now including ambulatory care of the moderately ill, as well as hospital care of the gravely sick.

4) Mandatory social insurance or social security would be associated with much more comprehensive health services -- both curative and preventive, including drugs, dental care, and so on -- but limited to those persons who had made social insurance contributions; these would be something less than the total population of a country.

5) General public revenue financing would mean comprehensive, highly organized services for everyone.

Such relationships as these may, indeed, seem to have a certain <u>partial</u> validity, if one thinks of the history of health care development or the current distribution and diversity of health care systems around the world. Thus, in primitive times, or in many rural areas of the least developed countries today, virtually all health care is financed by private households and is delivered by individual village healers.

In the Middle Ages, when religion was a major social force and when hospitals were first established, they were first financed solely by charity mobilized through the Church. Those early hospitals were, indeed, just for the care of the most destitute and gravely sick; they did not even have outpatient departments for ambulatory care. Hospitals in many countries are still supported partly by charitable donations.

When cooperative mutual funds developed in Europe, first among artisans through the guilds, and later among industrial workers, their main purpose was to assure the availability of ambulatory care by doctors and of drugs. Among various channels for the delivery of health services were special salaried physicians or panels of participating doctors, constituting a form of organization of ambulatory care. In today's world, we see many programmes of voluntary health insurance -- such as the well-known Kaiser Health Plan in the USA -- linked to patterns of highly organized ambulatory services.

The rise of social or statutory insurance after the 1880s, and its spread throughout the world, set in motion a whole series of developments toward increasingly organized delivery of comprehensive medical care. To select only a few examples, social insurance in Europe led to the founding of polyclinics (as in Austria or Germany), where workers could get specialist care outside the demeaning charity environment of a public hospital outpatient department. Social insurance has also imposed schedules of fees on doctors, lists of approved drugs, and many other forms of systematic regulation of health care delivery. In Latin America, social security programmes have been implemented through wholly organized networks of hospitals and health centres for the delivery of both curative and preventive services. But the health benefits of all these programmes are limited to insured workers (and sometimes their dependents), who may be as few as 5% or as many as 90% -- but never 100% -- of the national population.

Finally, the use of general revenue financing has been linked historically with many forms of health service. One might note that preventive community services, intended to benefit entire populations, invariably depend on such financing. In the socialist countries today, general revenue support of health care has been intimately linked with highly organized delivery of comprehensive services -- through regionalized networks of hospitals and health centres, staffed by salaried teams of personnel -- for entire national populations.

Thus, plenty of examples can be found to corroborate the validity of a model of health care financing and delivery of the type just put forward.

Entrepreneurialism versus Equity

A moment's reflection, however, reveals countless deviations from this simple model. The straight linear relationship between mode of financing and pattern of delivery deviates continually, in response to pressures from social forces for entrepreneurialism in one direction and for equity in the other. Examples of this abound, but, before offering any, I should explain a little more fully what I mean by these two opposing social forces.

In all forms of socioeconomic system, there are mechanisms for the exchange of goods and services. After the decline of feudalism, with the rise of capitalism, the production and sale of commodities became largely a matter of private enterprise. As interpreted by the Scottish economist, Adam Smith, the pursuit of private profit by each individual, in competition with other individuals, would result ultimately in the greatest benefit for all. The 'unseen hand' of the free market would govern the distribution of all commodities optimally. Even human labour would be an object for exchange, so that -- without the coercion of slavery or the restricted markets of feudalism -- the payment for work by an employer (or capitalist) would be just and reasonable. There was no place in this model for monopoly to constrain competition, nor for exploitation to reduce the reward for labour to less than its just value.

This paradigm of capitalist dynamics is doubtless amateur (for I am not an economist), but it may be accurate enough to remind us that -- with the growth of capitalism and the acceleration of production and exchange that accompanied the Industrial Revolution -- medical care also became a service bought and sold in the market-place. The provision of 'free services' by hospitals, with the support of charity, or of public health services, with the support of general tax funds, constituted partial interventions in the operations of the market in question. But most ambulatory medical services, along with drugs, corrective eyeglasses, dental service, and other components of health care, were provided through the general market dealing with other goods and services.

As a result, the providers of these services -- mainly physicians and apothecaries (later pharmacists) -- came to function essentially as small merchants selling their wares. Insofar as they could minimize competition -- for example, through claiming unique skills not available from others -- they acquired somewhat monopolistic strength and could charge prices yielding exceptionally high profits. This process has often been epitomized as 'commercialization'. Medical care has been commercialized. insofar as it has been sold to patients in a manner designed to yield, above all, a maximum profit. Services might be sold which, in fact, the patient did not really need but which the doctor, with his superior knowledge, could readily persuade the patient that he 'needed' and should purchase. These tendencies to maximize provider profits, instead of patient welfare, in the medical market-place constitute the social forces I define as promoting entrepreneurialism.

But, coming from the opposite direction, there are the forces for attaining equity, or the provision of health services solely in relation to people's needs. Thus, the organization of a cooperative or mutual fund to finance medical care, for example, counteracts entrepreneurialism and promotes equity in at least two ways. First, by pooling the purchasing power of many individuals into one large fund, before sickness strikes, it mobilizes money to pay for the treatment -- otherwise difficult to finance -- of unpredictable sickness in any one individual. Second, by mobilizing the buying power of many consumers, it strengthens their bargaining position vis-à-vis the sellers of service (or health care providers) in the determination of prices. The social forces generating these mechanisms to protect people's interests with respect to health care, I define as promoting equity.

Both the forces for entrepreneurialism and the forces for equity in the health care world take numerous forms beyond those just outlined. There are countless subtleties in the operations of an entrepreneurial market for health services, and equivalent subtleties in the process of intervention in that market to achieve equity. A few specific illustrations of both these types of social force may now be considered.

Some Specific Illustrations

The National Health Service in the United Kingdom after the Second World War constituted a quantum leap in the direction of attaining equity in health care distribution. Almost overnight, comprehensive health care was made virtually 'free' (i.e., not charged for at the time of service) for the entire population. The economic support was derived overwhelmingly (about 85%) from progressive general taxes, almost all hospitals were nationalized and coordinated by regional authorities, and every person became entitled to primary care through a general practitioner of his own choice. Various strategies were employed to promote preventive services, to improve the geographical distribution of resources, and to protect the quality of the care provided to everyone. Clearly these features represented very far-reaching concepts of health care equity.

Nevertheless, the salaried consultants or specialists in hospitals did not have to devote 100% of their time to the public service. They were (and are) free to spend some 10% or 20% (or more) of their time in private practice. The patients who could afford to pay personally for these private services, of course, would only be a small class of higher-income people. Thus, a given specialist might spend, for example, 20% of his time in private practice, serving perhaps 5% of the population, while 80% of his time would be devoted to meeting the needs -- usually much greater per person -- of 95% of the population. This <u>degree</u> of inequity may not be dramatically large, but it reflects the forces of entrepreneurialism still operating within the generally equitable British health care system.

The current Conservative government in Great Britain, I am told, is attempting to enlarge the private sector in health care still further. This is described, ironically, as a measure to 'reduce the great pressure' in the public medical sector. Increasing private services, however -- for example, by facilitating greater enrolment in private health insurance associations -would have just the opposite effect. By draining health resources from the large public system to serve an affluent minority, the quantity or quality of services, or both, are lessened for the great majority of the population. If the amplitude of health services in the public sector is to be maintained in this situation, the pressures within them must inevitably increase.

It may be argued that more private services by specialists would not reduce the hours devoted to public-sector patients, but rather would constitute additional services (e.g., 50 hours per week instead of 40) not otherwise provided. In reality, however, there is no evidence that it works this way. Moreover, if a physician is to work longer hours per week, equity would demand that those hours be available to patients on the basis of health needs, not personal wealth. Thus, in Sweden, to cope with this very problem, it was decided in 1972 to prohibit any private practice by publicly salaried specialists. Entrepreneurial private medical practice may be carried on separately in Sweden. but not at the expense of the public medical sector. There are other purely private entrepreneurial features in both the British and the Swedish health care systems, such as the production and sale of pharmaceutical products, but time does not permit discussing them.

In socialist countries, despite the great dominance of a governmental health care system intended to provide equitable service to everyone, certain entrepreneurial features still persist. In Poland, for example, all physicians are obliged to work seven hours per day in the public service. Beyond these hours, however, the doctor may engage in private practice, serving only those patients who can afford to pay private fees. To minimize the extent of such entrepreneurialism, the Polish government has actually institutionalized a private sector, by allowing and even facilitating the establishment of so-called 'medical cooperatives'. After their seven official hours of work, doctors may work in these cooperatives up to two further hours per day; the fees are controlled, and a portion of them is retained by public authorities to cover the overheads (rent, auxiliary health staff, etc.) of the

185

clinic. Patients, however, must pay the fees privately. Thus, more affluent persons may be served in a medical cooperative, while most of the people must wait their turn in a free public clinic or health centre.

The persistence of entrepreneurial forces is more prominent in the USA, where the political forces promoting equity have been relatively weak. Thus, after many years of political debate, in 1965 there was enacted legislation providing social insurance protection for medical care of the aged (persons 65 years of age and over). This is financed mainly by social insurance contributions from the entire working population (including most of the self-employed), with a small share derived from general revenues. For the poor of any age level -- but defined by certain other characteristics (e.g., a family with children but without a bread-winner) -- federal general revenues are provided for a relatively broad range of medical care, but this money must be matched by tax funds from the 50 state governments. The former programme is popularly termed 'Medicare' and the latter 'Medicaid'.

Under both Medicare and Medicaid, however, the providers of service -- physicians, hospitals, pharmacists, dentists, and so on -- remain almost entirely private entities. Each provider is paid fees for his work, and there is abundant evidence that some providers multiply services -- such as diagnostic procedures or surgical operations -- not for the benefit of the patient but to maximize earnings. (The same type of abuse has long been found, of course, in European national health insurance programmes paying for care on a fee basis.) To cope with this, various administrative procedures have been instituted in the USA, such as surveillance of payment claims for hospital care (the costliest component) by groups of professional peers, known as 'professional standard review organizations'. These regulatory processes do little to advance the organization of health care delivery, but another consequence of the entrepreneurial tendencies in Medicare and Medicaid is more significant. This is the official promotion of so-called 'health maintenance organizations'.

For many years consumer groups, or groups of workers and employers, had organized voluntary health insurance programmes, in which medical care was provided, not by private doctors, but by organized teams of medical and allied personnel. Sometimes called 'prepaid group practice health plans', these schemes of both organized financing and organized delivery of service were a

distinctly marginal movement in the US health scene -- vigorously opposed by private medical associations and getting no support from government. With the groups of physicians typically paid by salaries, rather than fees, however, their economic incentives were modified to emphasize preventive and ambulatory services and frugal use of costly hospitalization. In fact, with lesser use of hospitals, it was soon recognized that the earnings of physicians could be somewhat greater. Even so, the overall cost per person of ambulatory and hospital care under these schemes was found to be less than in the conventional open-market pattern of US medical practice.

In 1971, therefore, six years after the enactment of Medicare and Medicaid, the federal government decided to encourage deliberate establishment of these prepaid group health plans -- now relabelled 'health maintenance organizations' (HMOs) -- as a practical approach to stemming the tide of rapidly rising costs in respect of Medicare and Medicaid, as well as national expenditures for medical care generally. In 1973, a law was passed to furnish federal subsidies to accelerate the growth of additional HMOs. The HMO movement is now recognized as a strategy for changing the whole pattern of health care delivery in the USA, from individual medical practice based on fee-for-service remuneration to teamwork health care with salaried personnel. This is all being promoted within a general framework of free private enterprise, since HMOs are both private in sponsorship and local in origin. In the model of health care dynamics drawn here, HMOs illustrate one way in which social organization of financing -- by making expenditures highly visible to the population and the government -- leads to greater organization of delivery, even in a staunchly entrepreneurial economy.

There is another way of regarding the whole movement toward socially organized financing, illustrated by Medicare and Medicaid in the USA and by national health insurance (NHI) programmes in dozens of other countries; this is as an effort towards attaining equity in health services -- even when patterns of delivery remain mainly individualistic and non-organized. In time, the organized character of the financing induces social concern that the money be wisely spent -- that is, spent in the ways that are most efficient and effective. Thus, in countries with NHI programmes, there are mounting pressures for the establishment of health centres to improve the delivery of ambulatory services through teams of personnel. We see such health centre movements in all the Scandinavian countries, in Australia, Canada, and New Zealand,

and to a lesser extent in France, the Federal Republic of Germany, and Japan. In Italy, many decades of voluntary and then mandatory health insurance programmes, under multiple autonomous sponsorships, have now led to legislation (in 1978) for a unified national health service, with systematically organized delivery of both hospital and ambulatory care.

The contrast between an entrepreneurial and a social equity philosophy is rather nicely illustrated by some recent data from a study of radiological services in US hospitals. Hospital radiologists in the USA are paid by two principal methods: a) by a negotiated salary, and b) by receipt of a percentage of the fees derived from patients (or their insurance carriers) for each radiograph taken. It was found that, for radiologists of identical qualifications, the annual incomes derived from the second method (patient fees) were significantly higher than those derived from salaries. The explanation would seem to lie in the economic dynamics of these two payment mechanisms, and the way they operate in different types of hospital. In the most prestigious hospitals (e.g., those associated with medical schools), salaries are usually paid; since there is heavy competition among radiologists for staff appointments in these hospitals, almost any of them is pleased to work for the salary offered. In ordinary hospitals, however, posts must be made financially very attractive in order to secure well-trained radiologists. Arrangements to share patient fees can yield very high earnings, and so the more competent radiologists insist on this method; hence, to acquire their professional services, the hospital is forced to comply. The patients, of course, carry the ultimate cost burden. Thus, when the hospital is in the stronger bargaining position, the resultant costs to the people are lower and hence more equitable. When the entrepreneurial radiologist is in the stronger bargaining position, the costs to the people are higher and hence less equitable.

The movement towards the development of networks of health centres, particularly to serve rural populations, is especially prominent in the developing countries. The standard strategy in Africa, Asia, and Latin America is to move toward equity in health care, not only through public revenue financing, but also through organized structures for the delivery of combined preventive and treatment services. Regionalized hierarchies of health posts, health centres, small district hospitals, and larger regional hospitals are typically promoted. Thailand is an example of a

developing country, where some 65% of all expenditure on health comes from private households and goes to the support of individual providers -- physicians, drug-sellers, traditional healers -and even to finance the use of drugs and diagnostic tests in public facilities. The Thai Government, however, has plans to counteract the highly entrepreneurial character of its health care system by the widespread construction of health centres and small district hospitals and the extensive training of middlelevel health personnel to staff these facilities. It has also been recently decided to make a period of rural public service mandatory for all new medical-school graduates.

Technological Considerations

Quite aside from all these conflicting social pressures, favourable or antagonistic to, the organized delivery of health care, there are purely technological factors conducive to organization. The very complexity of medical science and its application creates pressures for increasing organization. This has been seen longest within hospitals, where the aggregation of diverse health personnel and all sorts of equipment has led to increasingly systematic organization. Not only within each hospital is there growing organization of work, but also among hospitals in geographical regions there are increasingly rationalized assignments of function, according to hospital size and location.

In ambulatory care, within even the most entrepreneurial settings, there are technological pressures toward organized delivery. This is seen vividly in Canada, the USA, and many other countries, where group medical practice is gradually replacing solo practice, even though the financial support may be personal and unorganized. The renowned Mayo Clinic, for example, represents a highly organized pattern of medical care delivery, but most of its financial support comes from private patients -typically from affluent families.

Technological efficiency is, indeed, a contributory factor in the world-wide movement towards the use of community health centres. On egalitarian grounds, it is sometimes argued that care for the poor (even when financed from public revenues) should be provided in the 'mainstream' of medical practice in the prosperous industrialized countries -- that is, through fees paid by governments to privately practising physicians, local private pharmacies, and so

on. When the logistics of delivering complex scientific services effectively are considered, however, along with the cost-efficiency aspects of using rational teams of personnel, the value of organized community health centres becomes increasingly apparent. While this pattern may deviate from conventional 'mainstream medicine', it can usually furnish better quality and greater quantities of service than the traditional private doctor. This is coming to be recognized for all economic levels of the population in the United Kingdom -- with its rapid expansion of health centres as settings for the private general practitioner -- just as it has long been the policy in socialist countries and various developing countries.

Overall Trends in Health Care Organization

All in all, it appears that the worldwide trend is toward increasing organization of both the financing and the delivery of health care. In spite of the counteracting pressures of an entrepreneurial ideology in all countries -- even those with the most highly collectivized financing -- the long-term trend appears to be in the direction of achieving greater equity through rational organization. The entrepreneurial pressures for regarding health care as a commodity -- a consumer good to be bought and sold in the market-place -- are gradually being overcome by the social pressures for the distribution of services according to concepts of equity -- that is, according to each person's human needs.

This concept of health care is reflected in the worldwide interest in national health planning. It is seen in the high priority given by countries to extending primary health care to entire populations, as dramatized in the Alma Ata Conference of 1978, sponsored by WHO and UNICEF. National planning or 'country health programming' to achieve this goal means essentially an intervention in the free market for the purpose of attaining equity. If the traditional entrepreneurial approach to health financing and organization resulted in the optimal distribution of man's earthly goods, as conceived by Adam Smith, there would be no need for planning nor for regulation. It is rather the highly imperfect operation of market dynamics, the distortion of competition by monopolistic practices, the extremely uneven distribution of family incomes, and the great informational handicaps under which consumers must make decisions (even when financing has been collectivized) that have stimulated so much deliberate planning and regulation to correct market failure.

Systematic planning of the delivery as well as the financing of health care, moreover, is more readily achievable in most nations than similar planning or organization in other social sectors. Health care relates to issues of life and death. which can dramatize the need for social change more readily than other issues. Hence, countries such as the United Kingdom or even the USA -- in which a basic entrepreneurial ideology motivates the distribution of food, clothing, housing, transport, and most other goods and services -- are quite prepared to make major social changes for achieving equity in health care. Even though the conventional opposition of private health care providers may retard or deflect the course of advancement to a goal of health care equity, the impact of such opposition is bound to be transitory. Social reform for health care equity is not basically a revolutionary issue, and countries at every point on the political spectrum are undertaking it in one way or another

In spite of the many conflicts between forces for entrepreneurialism and forces for equity, therefore, an assessment of world trends surely justifies confidence in the future. In the long run, I believe, the simple model of relationships between the financing and the organization of health care offered earlier will come to represent a valid picture of reality. The numerous social and political pressures for the organization of health care financing will, in effect, also generate pressures for the organization of health care delivery. Such a forecast can be offered with some confidence on the basis of the trend over the centuries towards implementing a concept of health care equity, as well as the requirements for the optimal application of technology in the world today.

Résumé:

Les rapports entre l'organisation et le financement des services de santé, en laissant de côté les facteurs technologiques et politiques, peuvent être schématiquement représentés comme un continuum linéaire allant d'un mode individuel à un mode organisé de prestations, et d'une base personnelle à une base collective de financement. Ce continuum peut être élaboré comme un modèle simple à cinq échelons. Au premier, les personnes et les familles paient les fournisseurs individuels de services pour recevoir des soins. Au deuxième, les soins des personnes gravement malades sont pris en charge dans des institutions de charité par des oeuvres de bienfaisance. Au troisième échelon, l'assurance volontaire s'associe à des services plus organisés, y compris les soins ambulatoires pour les maladies de gravité moyenne. Au quatrième, les assurances sociales permettent une couverture plus large des cotisants. Enfin, au dernier échelon, le financement par les revenus publics assure une couverture complète pour tous par des services hautement organisés.

De tels rapports sont au moins partiellement représentatifs de la réalité. Le premier stade se retrouve dans de nombreuses régions rurales des pays les moins développés. Le deuxième était caractéristique des fondations religieuses soignant les pauvres et les malades au moyen-âge, modèle existant toujours en partie dans de nombreux pays. Le troisième stade a été mis en place par les corporations en Europe, puis continué par les travailleurs de l'industrie, et il est largement répandu de nos jours, par ex. aux Etats-Unis avec le Kaiser Health Plan. Le quatrième stade caractérise les progrès réalisés dans de nombreux pays depuis les années 1880, par exemple en Allemagne et en Autriche, avec l'établissement de polycliniques d'assurance sociale donnant des soins ambulatoires en dehors des hôpitaux publics à caractère de bienfaisance. La couverture par les assurances sociales est normalement associée à une réglementation plus systématique des prestations de soins médicaux, s'étendant des barêmes d'honoraires et listes de médicaments à des systèmes de santé entièrement organisés à des fins de soins curatifs et préventifs, comme en Amérique latine. Toutefois, ces programmes ne couvrent que le travailleur assuré et peut-être les personnes à sa charge, mais jamais 100% de la population. Finalement, le cinquième stade, qui fait appel aux finances publiques, est lié à de nombreuses formes de services de santé, notamment les services préventifs généraux, et il est extrêmement développé dans les pays socialistes.

Des rapports simples et linéaires de ce type sont constamment modifiés par l'opposition des forces entre esprit d'entreprise et équité. L'esprit d'entreprise a mené les fournisseurs, principalement les médecins et les pharmaciens, à faire office de petits commerçants, mais avec des restrictions professionnelles qui ont réduit la concurrence et permis aux services de santé d'être vendus avec un maximum de profits et à des prix de monopole.

L'équité est soutenue par des mécanismes tels que le financement collectif, qui groupe les risques des dépenses des soins de santé pour l'ensemble des personnes et renforce à la fois leur pouvoir collectif de marchandage dans la fixation des prix.

Le Service national de santé britannique (NHS) a représenté un pas considérable vers l'équité en fournissant des services complets et organisés pour tous, pratiquement gratuits au moment de leur utilisation, et financés par le produit de l'impôt. Néanmoins, la force de l'esprit d'entreprise a été si importante que les spécialistes salariés des hôpitaux ont conservé le droit de consacrer 10 à 20% de leur temps à une clientèle privée, ayant les moyens de payer. Des mesures prises par le gouvernement conservateur actuel visent à développer le secteur privé "pour réduire la forte pression" exercée sur le NHS, mais elles sont plus susceptibles de drainer les ressources vers une minorité aisée, appauvrissant ainsi le principe d'équité. La Suède, en revanche, tout en admettant l'exercice de la médecine privée, interdit aux médecins fonctionnaires de la pratiquer. Les cabinets privés subsistent, même dans les pays socialistes, comme la Pologne, mais seulement en complément à un travail à plein temps dans les services publics, et avec un barême d'honoraires.

L'esprit d'entreprise est plus prononcé aux Etats-Unis, où les fournisseurs restent largement privés, sauf en ce qui concerne l'assurance sociale pour les indigents et les personnes âgées. Malgré les procédures de contrôle, il y a d'abondantes preuves d'abus dans ces systèmes de paiements à l'acte, par la multiplication de services inutiles. Depuis 1971, l'Etat a donc subventionné et encouragé le développement de plans de santé groupés et préfinancés (ou Health Maintenance Organizations) dans lesquels les médecins sont salariés et le préfinancement encourage des stratégies économiques de santé fondées sur des services préventifs et ambulatoires. Cette réaction reflète l'orientation à long terme vers un financement organisé propre à préciser les coûts et à faire naître le souci d'améliorer l'efficacité et l'efficience, par exemple par l'implantation de centres de santé ou, comme en Italie, par l'instauration d'un service national de santé. L'importance des systèmes de paiement est illustrée par les revenus (et les coûts en résultant) des radiologistes payés sur la base d'honoraires, bien plus élevés que ceux de leurs collègues salariés. Dans les pays en développement, la tendance est à la mise au point de réseaux structurés de services de santé propres à améliorer l'équité et à réduire l'esprit d'entreprise. La complexité et l'échelle

technologiques entraînent également une plus grande organisation allant des cabinets de groupe et des centres de santé pour soins primaires aux services hospitaliers locaux et régionaux.

La tendance internationale va par conséquent vers une plus grande planification pour un financement et des prestations organisées de soins de santé, et pour une plus grande équité. Les soins de santé comme produit de consommation commercialisé sont de moins en moins acceptables et cèdent la place aux soins selon les besoins, même dans des pays à économie de marché. Les écarts à partir du modèle simpliste donné ci-dessus sont en voie de disparition, le modèle reflétant donc de plus en plus la réalité.

STRATEGIES FOR CHANGE : HEALTH PLANNING AND DIRECT PROVISION

G. A. Popov

Health and Economics *

Human health is known to depend on a complex variety of natural (biological and genetic) and socioeconomic factors. For the individual these include: working conditions, real earnings, social security and welfare, recreation, nutrition, living conditions, education, provision of public utilities, physical education, general cultural level, health knowledge, and so on. The conditions needed to reproduce and maintain a healthy society include both material elements (natural and man-made) and spiritual ones (ideological, ethical, psychological, etc.). A high living standard is not feasible unless the requirements of all persons for maintaining and preserving their health are met as fully as possible.

Comprehensive evaluation of the state of public health is difficult because a wide variety of factors affect the community's health and that of specific population groups. None of the generalized indicators used at present (general morbidity rates, temporary disability rates, invalidity rates, mortality rates, life expectancies, physical development indices, etc.) can serve as an integrated health indicator for the community as a whole, since each reflects only certain aspects of health. This remains one of the most important problems including those concerned with the methodology and procedures of community medicine, health planning, and health economics.

^{*} This paper has been rewritten by the editors with the approval of the author to make it more accessible to non specialists.

Public health is one of the most important 'unproductive'⁽¹⁾ (service) branches of the economy, consuming significant material and labour resources. A serious problem is presented by the absolute and relative growth of the health expenditure in most countries.

The difficulty of separately evaluating each of the factors affecting health does not mean that health is 'immeasurable'. Demographic indices, the character and rates of morbidity, disability, and physical development, together with systematic evaluation techniques, present a sufficiently objective picture of the community's health, of the basic underlying processes, and of the contribution of health to the national economy.

In the development of modern productive forces, health and other services are supportive prerequisites to the creation and maintenance of a healthy labour force. However, cost-benefit analysis in the health sector - the keystone of health economics remains extremely complicated. The concept of 'improvement of health' cannot be expressed adequately in the terms and concepts of political economy. The measurement of health, using the procedures for evaluating the costs of produced goods, raises both theoretical objections and practical difficulties. The difficulties encountered in evaluating the economic cost of impaired health, and in doing cost-benefit analyses of health programmes, arise mainly from the lack of direct ways of measuring health costs and the results of medical and sanitation programmes.

The Contents and Objectives of Health Planning

Health planning is a system of measures carried out by the State and the public to adapt the supply of services to the needs of the population within the existing economic resources.

⁽¹⁾ In the national accounting systems of the socialist countries of Eastern Europe, economic sectors which produce and sell goods and services, creating a surplus value, are classified as 'productive'. Those sectors which are financed from this surplus and which do not sell their output, e.g., health services, are classified as 'unproductive'. (Ed.)

POPOV

In the socialist countries of Eastern Europe three aspects of health planning are typically singled out: first, the planning objectives, which are concerned with the various aspects of health and the processes affecting it; second, the planning methodology necessary to understand and influence these processes; third, the organizational structure of the planning system, its component parts, and the network of planning bodies with their relationships and functions. The methodology of health planning involves not only macroeconomic analysis, but interdisciplinary inputs from many fields, such as demography and community medicine, as well as health economics.

The basic relationship between society's socioeconomic objectives and its health objectives may be described as follows: society endeavours to create the conditions for good health, but its possibilities for doing so depend on its economic development which is in turn affected by the level of health. Health and health services are not in themselves a factor in production, but they have a mediating effect on the supply and quality of labour, which is a key factor in production, by improving general health, increasing life expectancy, reducing sickness absence, accidents, and disability, and hence increasing productivity.

Long-range health plans should seek to determine the best strategies for improving health and the resources required to implement them. The ultimate aim is to maximize the health and well-being of the population within the available resources.

Over 2000 quantitative and qualitative indices are used in health planning and economics in the USSR. They can be classified into four groups, relating respectively to: a) the state of health; b) the activities of health services; c) the provision of material, labour, and financial resources, and their utilization; and d) the medical, social, and economic effects of health programmes and activities, as well as their efficiency. The main general criteria in the comprehensive evaluation of health status are the demographic indices, the character and the rates of morbidity, and the rates of disability and mortality. Thus, the product 'health' is described by a system of indices, characterizing the direct and final results of the work of the public health staff.

197

The Contents and Objectives of Health Prognoses

Health prognoses are an integral part of health planning. Prognoses are scientific hypotheses, reflecting problems and possible ways of solving them on the basis of available science and technology. Prognoses are used to suggest possible solutions and decisions, whereas plans stipulate the choice made, the final results expected, and the time period, as well as the work to be done and the funds and personnel required. Health plans are the guidelines, the basic documentation, for public health management.

In health prognostication, the most important objective is to determine the main fields and trends of scientific and technological development and of socioeconomic change, with the aim of improving health and increasing active working life. The prognoses help to concentrate the material and manpower resources in those fields of science and technology that are of decisive importance in decreasing morbidity and mortality rates and hence raising national productivity.

Health prognostication can classify trends and help to solve problems in the following areas:

- developments in the medical sciences;
- improvements in the environment;
- improvements in living standards;
- demographic shifts;
- analysis of the ecological aspects of community health;
- surveys of the character and rates of morbidity in respect of, say, particular diseases or groups of diseases (e.g., infectious diseases) or different population groups or communities;
- specialization and integration of medical care;
- development of long-range standards for medical care, public health and epidemiological services, provision of drugs, development of health institutions, and staff;
- improvement of the structure, organization, and management of public health.

Prognostications of scientific, technological, and social developments help to identify the most promising research trends, relating to the above problems, which should be considered in

198

developing long-range health plans. The methods employed depend on an understanding of the development dynamics of the fields concerned and vary accordingly.

Scientific Support and Monitoring of Long-Range Plans

The scientific support and monitoring of long-range health plans are based on analyses applying the main laws of health development. The health situation is analysed systematically to evaluate the existing levels of health care provision and to predict further health developments.

The socioeconomic analysis of health status, and of the activities of health institutions and personnel, includes the evaluation of indices describing living standards, the demographic situation, general morbidity rates, temporary and permanent disability rates, mortality factors and causes, and takes in such pertinent aspects as cardiovascular diseases, oncology, trauma, psychiatry, stomatology, geographical pathology, etc., as well as standards of hygiene, including negative environmental factors, etc.

The analysis also includes an evaluation of the extent to which the planned activities or programmes, and the funds and resources available, achieve the stated objectives. Here the effectiveness of the various interventions is of course related to the money and resources committed to them. Indeed, the primary goal of the analysis is to determine to what degree the structure of health services, the activities of the health institutions and personnel, and the material, labour, and finances provided satisfy the community's health requirements efficiently and effectively.

Another, more complex type of evaluation, seeks to determine the contribution of health to the economy, i.e., its external efficiency. This involves, on the one hand, the social and economic costs of disease, disability, and premature death and, on the other, the socioeconomic effects of dealing with them. Internal and external (social) efficiency are two sides of the problem rather than 'narrower' and 'wider' aspects of it. Formulation of the problems of external efficiency is impossible without solving the problems of internal efficiency.

The social and economic costs of health problems caused by specific environmental factors can sometimes be evaluated more or less accurately by special procedures. However, since the environment is a complex system whose behaviour is determined by a variety of interrelated and interdependent factors, and the effects of these factors are in turn determined by the state of the system as a whole, the 'cost' of the human environment in the wider sense is hard to assess. Attempts to assess it are nevertheless being made. Unfortunately, scientists in different countries, and even sometimes in one country, evaluate economic costs differently, so that comparative analyses of the results is not feasible. Their studies make use of different procedures, criteria, and indices for evaluating the health and economic potential of the population. In addition to the methodological difficulties involved in selecting procedures for calculating economic costs, there is the formidable problem of identifying etiological relationships. What disease gives rise to what costs ? A pathological process is typically the result of multiple factors, while the same etiological factor can be implicated in various diseases. Even more difficult to solve are the problems involved in evaluating the social and economic efficiency of health services, because of the importance of qualitative elements both in diseases and in the activities of the health These aspects are difficult to formulate, classify, services. and evaluate quantitatively.

The medical, social, and economic benefits obtained by decreasing the rates of morbidity, disability, and premature death should be evaluated as fully as possible, with due attention to the value of health improvement per se, the prolongation of economically active life, increases in the gross national product, and so on. What is the social and economic efficiency of new medical services (specialized treatment and follow-up centres, screening, vaccination, etc.), improvements in the environment (air, water, working conditions, living conditions, etc.), decreases in the incidence of infectious diseases, and so on ? What is the contribution of such factors to disease prevention, improvement of community health, reduction of disability rates, prevention of premature deaths, increases in the gross national product, prospects for social and economic development, and so on ? Health is such a wide and complex field that, even if we combine qualitative and quantitative evaluations, we cannot determine the full external efficiency of health interventions without analysing

POPOV

their internal efficiency in improving community health.

Unfortunately, many indices used in developing health prognoses and plans merely describe the activities of medical and epidemiological institutions. The quality, adequacy, effectiveness, costs, and benefits of health activities are evaluated as process indicators rather than from the standpoint of their ultimate effect on health status. It is extremely difficult to predict the potential effectiveness of the health activities proposed in long-range plans, i.e. the improvements in health status they will produce or their social and economic significance.

Development of Long-Range Health Plans

The considerable growth of resources in the health services, the development of their organizational structure, and the increase in the number of indicators describing community health requirements all go to multiply the number of possible development scenarios and make it more difficult to make planning decisions (1). Health planning, while being an integral part of social and economic planning, is by the development of scientifically based norms to predict health service requirements. These are embodied in flexible one-year plans within the framework of longer-term fiveyear plans. The definition of health needs depends on a complex interaction between health problems, as measured by various indicators, the existing structure and capabilities of the health services, the importance and resources accorded to them, and the state of development of the economy.

One of the central problems of health economics, planning, and management is to establish correct ratios between various types of medical care. In the USSR, as in other countries, health care is provided by a variety of services organized in various ways and using different levels and types of resources. Outpatient care, emergency services, hospitals, and sanatoria make up the basic structure of community medical care. Analysis of the relevant indices often shows that the level and mix of services do not always match the available resources. However, the interchangeability of various types of medical care provides a solution to this problem. For instance, lower numbers of hospital beds are compensated by more home visits by doctors, although they inevitably see fewer patients in the available time; the more extensive the provision of outpatient services, the lower the requirements for inpatient institutions, which are both capital-intensive and labour-intensive.

Since in integrated medical care structures, each service may supplement, serve, or extend another one, it is unreasonable to analyse and plan any service individually, without taking into consideration its links with others. Often, however, different services still have no proper structural links; their planning and analysis are carried out separately, different indices are used for their evaluation, and they are almost always considered independently of each other. This situation can lead to an unbalanced provision of services and to problems such as overmedicalization, excessive costs, and a waste of resources.

In planning and distributing resources between the 'productive' and 'unproductive' branches of the economy, as well as within the health system, needs have to be met within the limits of the resources. Giving preference to some branches means that other branches have to be restricted. Under socialist conditions, dilemmas of this kind arise, essentially from difficulties due to rapid economic growth and the increasing material and cultural needs of the population.

Extensive free specialized medical services, provided by the State, increase the nature and volume of the demand for medical care. This, in turn, determines, to a certain extent the capabilities and the rates of development of the health institutions, the training of health personnel, and the forms and content of health activities.

Wide use of scientifically based progressive health standards, calculations of social and economic efficiency, and the matching of provision to need are prerequisites for developing an optimal system of health planning. The creation of such a system implies the establishment of rational relationships between community health needs and the requisite health services, and the evaluation of the extent to which the needs are satisfied in terms of the medical, social, and economic efficiency of each service.

The level of scientific, technological, and economic support for health plans, including their monitoring, depends to a great extent on the progressive character of the health standards adopted. These should reflect advances in science and technology, in methods of health organization, and in administration at all levels. Indeed, under conditions of high availability of medical care and accurate statistical documentation, utilization rates provide a reliable basis for evaluating morbidity, and hence for determining standards for medical care and health resources for the immediate future.

In recent years many countries have carried out comprehensive health and social surveys analysing incidence rates of disease ('exhaustive' morbidity) to reveal the discrepancies between need, and demand or use. These comprehensive surveys can provide a basis for determining 'actual' or 'absolute' health needs, that is, the total needs, irrespective of the economic feasibility of meeting them. (The level of these needs is the highest of all, but the danger of overmedicalization has to be taken into consideration.) In practice, health standards must take account of service capacity. 'Actual' or 'absolute' needs are, nevertheless, useful for longer-term planning, say, over periods of 10-20 years.

All countries need to improve the performance of their health services. This, in turn, requires further improvements in the theory and practice of health planning, and wider use of the programme-oriented approach. To sum up, the stages of long-range programme planning are: demographic prognostication, determination of the existing levels and trends of health development, determination of present and future health needs, evaluation of the existing economic prospects for solving the problems identified, and determination of specific health plans for the planning period.

In conclusion, it should be stressed that wide application of the methods of mathematical economics will raise scientific support and monitoring in health planning to a qualitatively new level. However, application of these methods requires changes in planning and prognostication, in particular an improvement of the data base using computer technology. This is now possible as, indeed, are more extensive international comparisons, which could also offer useful insights into health problems and systems.

Reference

(1) Pop

Popov, G.A. <u>Principles of health planning in the USSR</u>. Geneva, World Health Organization, 1971 (Public Health Papers, No. 43), pages 129-160.

Résumé:

La santé de l'homme dépend d'une variété complexe de facteurs biologiques et socio-économiques. Pour l'individu, ces facteurs s'expriment au travers des conditions de vie et de travail, du revenu, de l'alimentation, de la culture et de l'éducation, des services publics et sociaux, etc. et comprennent à la fois des éléments matériels et socio-culturels. Il n'est pas possible d'atteindre un niveau de vie élevé sans satisfaire les besoins de santé de l'ensemble de la population d'une manière aussi complète que possible, mais une estimation complète de la situation sanitaire d'une population est une tâche difficile à cause du grand nombre de facteurs à considérer et du fait que chacun des indicateurs habituels (taux de morbidité, d'invalidité, de mortalité, etc.) ne reflète que certains aspects de la santé. Cela reste un problème méthodologique important en matière de gestion et d'économie de la santé. Par ailleurs, les coûts en matière de santé sont en hausse dans la plupart des pays. Néanmoins, les indicateurs disponibles associés aux critères appropriés et aux techniques d'évaluation permettent d'exposer la situation en général, les méthodes de base utilisées et la contribution de la santé à l'économie. En fait, dans le développement économique moderne, cette contribution est essentielle au maintien de la santé des travailleurs. La santé ne peut être appréciée sur le plan économique en utilisant les procédures mises en oeuvre pour l'évaluation du coût des produits industriels, et même l'utilisation de l'analyse coût-bénéfice est complexe.

La planification en matière de santé dans les pays socialistes est centrée sur trois éléments: les activités socio-économiques et sanitaires à planifier, la méthodologie appropriée, et les structures d'organisation et de procédure requises pour la mise en oeuvre. Le système économique offre le moyen d'assurer des services de santé qui, à leur tour, renforcent la productivité de l'économie en accroissant le temps de travail et la productivité de la main-d'oeuvre. La planification sanitaire à long terme doit préciser des stratégies optimales pour le développement de la santé et indiquer les ressources nécessaires à leur mise en oeuvre. Pour ce faire, l'URSS fait appel à plus de 2.000 indicateurs qualitatifs et quantitatifs de quatre types principaux, décrivant: l'état sanitaire; les activités de services; les revenus et les finances des services ainsi que leur utilisation; et leurs effets médicaux, sociaux et économiques. Les principaux indicateurs permettant d'évaluer l'état sanitaire sont les taux démographiques

et les données épidémiologiques.

La planification de la santé suppose des pronostics de développements possibles en tant que condition préalable au choix des stratégies spécifiques pour lesquelles des plans sont alors élaborés. Ces pronostics doivent porter sur les principaux changements technologiques et socio-économiques qui affectent la santé, et il doivent permettre de concentrer les ressources dans les secteurs-clé du développement tels que la recherche médicale, la protection de l'environnement, les niveaux de vie, les changements démographiques, l'écologie et la morbidité.

Les plans à long terme sont surveillés scientifiquement, en commençant par une évaluation de base de l'état de santé de la population, et des services de santé. Puis les pronostics sont utilisés pour examiner les développements possibles, choisir les objectifs, préparer les plans et exécuter les programmes. Le développement des services et les résultats peuvent être controlés par référence au programme et aux objectifs prévus. On a procédé à des évaluations économiques des facteurs écologiques défavorables qui affectent la santé, mais les résultats varient trop pour être utiles, et d'importantes questions restent sans réponse, en ce qui concerne les rapports complexes de cause à effet. Il est encore plus difficile d'évaluer les aspects qualitatifs des services de santé. Malheureusement, une large part de l'évaluation des activités des services de santé reste au niveau intermédiaire des prestations fournies sans égard à leur effet final sur l'état de santé et la capacité fonctionnelle.

L'accroissement des ressources disponibles et le nombre de facteurs pris on considération augmentent la variété des scénarios possibles. Il est par conséquent nécessaire de disposer de plans souples à un an et à cinq ans. L'un des principaux problèmes en matière de gestion et d'économie de la santé consiste à déterminer les rapports corrects entre les divers services tels que les polycliniques hospitalières, les services d'hospitalisation, etc. Lorsque les ressources ne correspondent pas aux besoins, la compensation par des services interchangeables constitue une solution; par exemple, un plus grande nombre de polycliniques hospitalières réduit les besoins en hospitalisation. Cela signifie toutefois que les liens entre les services associés doivent être pris en considération durant leur planification et leur évaluation. L'inobservation de cette condition provoque des coûts et des pertes inutiles. La demande en services de

santé, lorsqu'ils sont complets et gratuits, est considérable et les besoins des autres secteurs en croissance doivent être pris en considération dans l'imputation des ressources. Il convient de comparer soigneusement, l'adéquation entre les services et les besoins sanitaires. De nombreux pays ont entrepris des enquêtes communautaires complètes afin de mesurer à fond la morbidité, mais la manière de répondre à ces besoins dépend de la disponibilité des ressources. Des analyses économiques quantitatives et sur ordinateurs peuvent améliorer considérablement la qualité de l'attribution et de la planification des ressources en matière de santé, mais il faut améliorer la base des données et les étendre notamment à des comparaisons internationales.

STRATEGIES FOR CHANGE: FINANCE AND REGULATION

R. Kohn

Dimensions of Change

Strategies for change depend on the nature of the contemplated change, and in that respect two broad levels can be discerned: one relating to the underlying social and political principles or the philosophy on which a health care system is built, the other to what Professor Roemer refers to as the technological aspects of the system, i.e., the question of how to ensure the optimal effectiveness and efficiency of whatever system exists.

At the first level, relating to the social philosophy on which a particular system is based, a strategy for change may or may not be required. It depends on the larger social climate existing in the country, and one could well imagine that speakers from the United Kingdom, the USA, or the USSR, and those from developing countries, will have very different views regarding the need for, or desirability of, changing the system as it prevails in their country at this time.

Depending, then, on the type of society one is talking about, there may or may not be seen a need to develop a strategy for change as regards the basic structure of the system. In large part, this is a function of the difference between social systems with a planned and those with a market economy. Countries like the United Kingdom or the Scandinavian countries lie somewhere in between those extremes and actually all countries have some, however limited, elements of both social systems. As for the health services, another factor has come to the fore which tends to change, if only gradually, the basic structure of health services even in countries with a predominantly market economy such as France, the Federal Republic of Germany, the USA, and other industrialized countries. The provision of health services has become more complex and costly everywhere and the 'health industry' with its high manpower input is one of the largest in all countries, rendering it increasingly difficult for an individual to procure adequate care even if he has the means. In addition, the right of everyone to health care has come to be accepted more and more, even in such highly individualistic societies as that of the USA (5), a trend reinforced internationally by the Alma-Ata Conference of 1978. It is inevitable that the supply of the resources necessary to guarantee that right and

to ensure accessibility of services requires increasing public involvement, leading to greater public expenditure and hence accountability also in market economies. Observing contrasting health service systems, Anderson (2) many years ago identified two extremes - the USA as the most loosely and the USSR as the most highly structured system - and it may now be postulated that the health service systems in all countries are tending to become increasingly structured. That this is actually happening can be confirmed by the changing patterns in the channelling of funds for health services in mixed or market economies. A good example of this is provided by the USA where, even without an explicit political commitment, funding sources have been shifting gradually from the individual to the collective and, within the latter type, from private to public channels, as depicted below, the original source of funds always remaining of course, the individual taxpayer or contributor:



If this transition is independent of, or even contrary to prevailing social policies, it has come about elsewhere, as for instance in the Scandinavian countries, as a result of traditional welfare state policies, or, as in the United Kingdom, as the result of a changing political climate in the aftermath of the war. In the socialist countries, on the other hand, the change was part and parcel of the establishment of a new social order, beginning with the revolution in the USSR in 1917.

So much, then, for changes in the basic concept underlying a health service system, where strategies for change may or may not be necessary or desired.

As for technological changes, any health service system must be adaptable to change simply because of developments in medical
science and technology, dynamic demographic changes in populations, and changing health problems, as well as, in recent years, the shortage of financial resources for health care and the resulting constraints. The health service system may be looked upon as a living organism which, like any species, must adapt to new situations or else become calcified and perish in the event. In other words, the system must be kept flexible and responsive to changing Two broad categories of conditions making for changconditions. ing demands on the system can be identified. The first, and easier to comprehend and also to provide for, is a change in the sheer volume of the demand for services: an increasing population requires proportionally more services, or a declining birthrate reduces the need for obstetric beds. The other type is change in kind, requiring something different from what there was before: chemotherapy for tuberculosis renders conventional sanatoria obsolete, and new kinds of services and facilities are required. Psychiatric care offers a similar example. A proper strategy for adaptation will try to avoid a situation in which the system is saddled with large and remotely located institutions for which alternative uses are difficult to find. Where inpatient facilities are still needed for cases of tuberculosis or psychiatric illness, they can be constructed so as to permit their eventual conversion into other kinds of health care institutions or into housing or industrial premises. Even the acute hospital could be designed more flexibly than at present, perhaps using prefabricated modules permitting easier and quicker erection and dismantling or changing. It should be possible to pool beds in a flexible manner rather than having them rigidly departmentalized. Hospitals, like schools, do not need to be built as perpetual monuments to perhaps well-meaning politicians.

The ready adaptability of the health services to changing demands is limited by the rigidity of the investment in the training of personnel and the construction of facilities. Although capital expenditure on the latter accounts for a relatively small part, perhaps 5-10%, of total annual health expenditure, it determines the pattern of health services for decades to come. The situation is similar with regard to the training of doctors and other health personnel.

Strategies for change should aim at minimizing the impact on the community at large of changes in the health services. The closure of a hospital, for instance, has implications not only for the personnel employed there, but also for the community as a whole, because of the various supporting services and social institutions it provides in relation to that hospital. The implications for health planners are clear: it is not enough to have a plan, but there must be an ongoing planning process with ready feedback. The need is for comprehensive or total rather than piecemeal planning, on a multidisciplinary basis with an input from all affected by the planning, including the community. This makes health planning a very complex task indeed, but it is aided not only by modern data-processing methods, but also by the skills of operational research and systems analysis, all of which combine to provide the policy-maker with alternatives to consider in arriving at his decisions - providing it is rational decisions the policy-maker wants. All too often in the past, information has not always been used, even where available: changes in the numbers of the elderly or in the school population still catch those responsible for services by surprise.

In summary, then, there will be occasions for: a) making changes within the system and b) in some situations, for changing the system as such. The situations just referred to will occur generally as the result of major changes in social policy such as those brought about by the 1917 October Revolution in the USSR or the changing sociopolitical climate in the United Kingdom resulting from the Second World War and leading to the establishment of the National Health Service there in 1948. Such changes in the system may mean, for instance, a shift from the private to the public sector or a switch from insurance to a health service. It may concern, if not the entire health service system, an important component of that system as in the case of the 1972 legislation in Finland reorganizing community care and that of the successive introduction of universal hospital and medical care insurance in It should be noted, however, that a change in the system Canada. also occurs gradually, as is illustrated by the shift in many countries from personal and private to public sources of funding.

On a different plane is the need for adaptability to changes within the system because of changing need patterns or technological changes affecting resources. Some examples of this type of changing demand on the health service will be briefly described below.

Areas Requiring Adaptability to Technological Change

Regardless of their structure and the sociopolitical framework in which they function, health services must develop strategies enabling them to adapt to changing needs, changing resource factors and, as we have recently learned, changing economic conditions in particular, economic constraints. KOHN

Some changes are reasonably predictable - for instance, those engendered by demographic trends. Countries in the temperate climatic zones, by and large the more highly industrial countries, face the problems of an aging population with maternal and child care needs levelling off. The less industrialized countries, mostly in the subtropical and tropical zones, still have to cope with poor maternal and child health and the infectious diseases. But gradually, in these countries too, as life expectancy increases, chronic and degenerative diseases gain in importance. Adaptation to these changes will require a strategy involving the deployment of very scarce resources on two fronts, i.e., that of persisting underdevelopment and that of gradual development, constituting a particularly difficult transition period for the countries concerned.

Advances in medical technology, however, cannot be as readily predicted, but careful monitoring of the evolution of medicine can aid in the design of suitable strategies because of the time-lag between new discoveries and the invention and putting into practice of new techniques. One of the difficulties here is, as for instance in the case of heart transplants and similar operations, to distinguish between the merely bizarre and glamorous procedure and those that may well become impractical and not cost-effective at the prototype stage but that, nevertheless, like new and initially expensive drugs, may be perfected to a stage at which they will be both beneficial and economical. This, of course, is part of the strategy to be adopted in the funding of medical research, in which the expected results may bear no relation to the money invested.

Demographic trends and scientific developments are perennial factors to which not only health services, but society as a whole, must adjust. Apart from these, there are issues peculiar to the health services which have come to the fore in recent years and to which the health services must react. Inevitably they will also have implications for the financing of the services. Among these are: strengthening primary care; emphasizing primary prevention (notably of chronic and degenerative diseases in the industrialized countries), as well as self-help and other intervention strategies; achieving an optimal balance between centralization and decentralization (this is bound up with community involvement); coping with the relationship between health and work (industrial or occupational health); rethinking the tasks and categories of health manpower; effectively coordinating the various services aimed at personal physical, mental and social well-being; and, cutting across all these, the issue of cost containment, which is of particular interest in the context of today's discussion.

Pennies and Patients

A decade or two ago, there was little perceptible conflict between the services that patients could reasonably (a term which itself requires comment) expect and society could provide in some form or other. The question of what is reasonable or adequate never loomed very large as long as only a limited range of medical interventions existed. This changed, however, with the growing sophistication of medical techniques. A generation ago or so, when poliomyelitis was feared almost as much as cancer is today, the provision of iron lungs for virtually all those who could benefit from them created many logistic problems but no insurmountable financial demand. It was an era when the public were urged to see their doctor at the slightest suspicion of something wrong with their health, when annual check-ups were recommended, and when the advice was that the more screening tests there were, the better.

More recently, however, we have made a full U-turn. Before going to the doctor, we should exhaust all possible ways of selfhelp; routine tests and check-ups are 'for the birds', we are told. We carefully question whether hip replacements, kidney dialysis, case-finding programmes or organ transplants are costeffective, and it has become difficult to say whether it has turned into a question of pennies versus patients or whether we are just thinking more rationally with the patient's benefit in mind.

Sometimes the two approaches happen to go hand in hand, as in the case of the strengthening of primary care. A U-turn here again: until recently, at least in the more industrialized countries, the general practitioner appeared to be heading for extinction, to be replaced by more technology in the hospital and more specialization. Then, however, we began to realize that something was needed to counteract the fragmentation of patient care and, particularly in developing areas, to improve access to care and make it universally available. It was this thinking that led up to Alma-Ata and found its confirmation there. Now health policy-makers have joined the movement to resurrect and enlarge primary care as a means of moderating the demand for costly care in acute hospitals.

These are some of the areas in which the health services have to develop strategies to adapt to changes that can occur in

KOHN

service structure and the organization of resources, or in financing mechanisms, but most likely in a combination of these features. Although, conceivably, methods of financing need not directly affect the ordering of resources - regionalization of services, for instance, could be implemented under a variety of financing mechanisms - there are strong interactions between the way a service is organized and the way it is financed. Means of regulation and control also may act independently of organizing and financing, but here again authority and accountability will very much depend on who is paying the piper and how he is being paid.

Financing

International comparisons of health expenditure like that carried out by Abel-Smith in the 1960s (1) provide an interesting insight into associations between costs or expenditure and the way a health service is structured. The actual data in the report referred to are, of course, completely out of date, but, if we use it to see what was happening in particular countries at a particular time, certain patterns emerge that are still of interest, even though today they may relate to other countries or different systems. If we take the countries as Abel-Smith found them around 1961-62, the time of his study, and order them along a continuum of the degree of structure, ranging from very loosely to very highly structured, we come up with the following table in which, on the basis of Abel-Smith's figures, selected parameters are expressed as percentages of those for the USA, the country with the most loosely structured system. The resulting picture is as follows:

	Loose	Inte	rmediate	Highly structured			
	USA	Canada	Sweden	United Kingdom	Yugoslavia		
	(%)	(%)	(%)	(%)	(%)		
Per capita GNP	100	64	62	51	10		
government source	100	207	340	367	374		
Per capita current health expenditure	e 100	66	58	36	8		
Health expenditure as percent of GNP in relation							
to USA	100	100	90	73	80		

In this particular configuration of countries at a particular time, it can be seen that, as affluence decreases, the health system becomes more highly structured, while an increasing proportion of the expenditure comes, as one would expect, from government sources, <u>per capita</u> expenditure decreases, and there is a general decrease in the proportion of the gross national product (GNP) spent on health services. None of this, of course, takes into account the quality of services in clinical terms or their accessibility; the latter, however, may be expected to increase with increasing tightness of structure and increasing proportions of funds coming from government sources.

This being so, one can only speculate on the merits of various methods of financing and organizing services. The most socialist of the systems in the table, i.e., that of Yugoslavia, is by far the least costly in absolute terms as regards per capita health expenditure, and the percentage of its GNP spent on health is also low. But, one can argue, this is only in line with the country's relative standing in the per capita GNP league; again, at the time of the survey the country's health resources may have been considered inferior in size and quality to those, say, of the USA. But one can also point to the United Kingdom, having about one half the GNP of the USA, yet providing health services at about one-third the cost of the services in the more prosperous country. Its resources in those happier days may not have been all that inferior to those of the USA, yet at a much lower cost it provided a universal, comprehensive, and fairly highly socialized service, with hardly any impediment to accessibility. This certainly disproves the contention, sometimes heard, that a universal, socialized system of this kind is wasteful and extravagant.

We have already noted the trend, in pluralistic systems with mixed public and private involvement in the financing of care, towards increasing public responsibility for funding. The relevant diagram was derived from experience in the USA but similar trends can be observed in other mixed systems.

The following table shows the shift from private to social financing during the period 1965-74 in the Federal Republic of Germany (11), France (9), and the USA (10).

	Germa (Fed.1	Germany (Fed.Rep.)		nce	USA	
	<u>1965</u> (%)	<u>1974</u> (%)	1965 (%)	1974 (%)	1965 (%)	1974 (%)
Private	20.5	19.3	29.6	24.9	79.2	62.4
Social	79.5	80.7	70.4	75.1	20.8	37.6

The degree of change varies between the three countries. The absolute percentages are not strictly comparable from country to country, largely because of differences in the nature of the insurance institutions available to the public apart from the national social security system. The 'mutuelles' in France, for instance, occupy a place somewhere between public and private insurances and are not included here under personal expenditure and private insurance. On the other hand, the sources of private expenditure in the USA include insurance mechanisms elsewhere classified as social. In the USA many types of insurance or prepayment are considered voluntary, although in industry they often are part of the conditions of employment. Several systems of classification overlap here: thus distinction is necessary between individual, over-the-counter payment and collective arrangements such as the early fraternal societies and the later commercial insurances; between commercial and non-profit insurance; between the public and the private character of the insurance carrier; and between insurance, prepayment, and social security. Employer contributions to employee sickness insurance also constitute a manner of socializing the payment for health care. Nevertheless, the figures in the above table are internally consistent for each country and they do reflect a trend toward diminishing the expenses to be covered by individuals or families out of their own pockets.

Collective arrangements for paying medical bills - and, equally important for the fraternal societies, providing for funeral expenses - began from the consumer side, with charity taking care of the destitute by paying the providers directly. While the consumers wanted protection against unpredictable expenses, providers on their part began exploring ways and means of easing their collection problems. There are early stories of doctors offering to provide their services to patients who were willing to pay a certain regular amount for whatever medical care they might need. During the Depression of the 1930s in the USA,

hospitals, and later organized medicine, instituted the Blue Cross and Blue Shield plans offering specified services for the payment of regular contributions. The provincial medical associations in Canada organized similar schemes within the Trans-Canada Medical Plan, predating the public insurance system instituted there later. In this connexion the different approaches to the public financing of health services in the USA and Canada make an interesting case study, reflecting the differences in the sociopolitical climate and professional power structure and attitudes in the two In the USA, there had been talk not about a national countries. health service, but about a national health (or rather sickness) insurance plan since the early part of the century, and particularly since the Depression and the Second World War. There was, however, no political consensus, and inadequacies in the provision of health services were dealt with in a piecemeal manner as public concern was aroused from time to time or pressure groups succeeded in pushing their particular demands. Although there is general dissatisfaction with the present fragmented system (or absence of a system, as some prefer to call it), there is as yet no political agreement on a solution.

In Canada, on the other hand, the social awareness created during the Second World War and in the postwar period has led to the acceptance by all parties and even the medical profession of the principle of universal health insurance. This has been implemented in steps, starting with coverage of hospital costs, which was followed a decade or so later by coverage of physicians' services. Pharmaceuticals and dental care are still not covered, but provincial and private plans are gradually being extended into these areas.

As stated earlier, within the channels of public financing the trend has been towards a greater share being assumed by central governments, but counteracting factors resulting in demands for greater regional and local autonomy have in recent years led to various forms and degrees of decentralization, particularly apparent in the context of federal constitutions. The trend towards providing greater flexibility is also reflected in the changing nature of funds transferred to local jurisdiction, which are tending to become less conditional and sectional, thus permitting greater freedom of use at the local level. Canada, for instance, switched from an earmarked contribution to the cost of provincial services to a system of federal income tax reduction in favour of the provinces in addition to a cash contribution; KOHN

the effect is the same, but regional sensitivity is taken into account. An open-ended way of funding local services, however, renders it more difficult to maintain uniform standards across the country, and a floor determining minimum standards may be set. In discussing decentralization in the funding of primary care in the light of the Alma-Ata Conference, a joint WHO/UNICEF document ⁽⁶⁾ postulates that at all levels 'funds are allocated and responsibility and authority given for the specific purposes of supporting primary health care by ear-marking funds to be used only for the purpose of primary health care and support to it'. In the Scandinavian countries, on the other hand, where local autonomy in health services has traditionally been linked with funding from local sources, there are indications of growing participation and consequent regulation by central governments.

The pluralistic and fragmented character of funding in systems providing for the financing of services rather than the services themselves is illustrated by the proliferation of private or semipublic schemes in some European countries, in the form of sickness funds under religious, political, or other sectional auspices. Similar patterns, though with less complete coverage of the population, prevail in Latin America. In the USA private coverage is provided by commercial insurance, by non-profit prepayment plans like the 'Blues', or by provider- or consumer-sponsored plans, including plans under the auspices of labour unions or employers, so that direct consumer payments now amount to less than one-third of the total personal health care bill. Even the publicly funded schemes in the USA work under a variety of principles; limited hospital care for the aged is covered by social security, physicians' services for the same group are subject to voluntary premium payments, while medical care for the welfare population is financed jointly by the federal and state governments, with criteria for coverage varying among states. The coverage of the aged, by the way, still leaves them with over one third of their personal health service costs to be paid out of their own pockets or by private insurance.

Money for public expenditure on personal health services, whether for their financing or provision in kind, may be collected as general tax revenue from local or national direct or indirect taxes, or it may be raised as an earmarked tax or premium. Among advantages claimed for the latter method are the greater stability of available funding, protection against encroachment from other societal priorities, and presumed awareness of health care costs on the part of the public. Disadvantages are the additional administrative costs and a certain rigidity imposed by the fact of separation from the general revenue pool.

It is interesting to see how the methods of raising funds for health insurances may vary even within one country, where a federal constitution endows the component jurisdictions with a high degree of autonomy in health matters, even if about half the funds may come from the central government out of its general revenue. Such is the case in the provinces of Canada with its national scheme of insurance for hospital care and physicians' While the predominant pattern is for the provinces services. to fund these services entirely out of general revenue, some provinces provide for additional, earmarked consumer contributions. Hospital care insurance is funded basically from general revenue but some provinces collect what are termed 'authorized charges' from patients, i.e., relatively small contributions per day of hospitalization, sometimes with exemption for certain categories of patients such as children, welfare recipients, etc. For physicians' services, on the other hand, some provinces collect premiums, usually scaled for single contributors and families. One of the provinces obtains the funds for its insurance programmes from employer and employee contributions, based on a percentage of wages, with a fixed contribution from the self-employed. A little less than half of this goes on hospital services, the remainder to the health insurance board of the province.

The application of the risk-linked insurance principle is found mainly in the field of private insurance, but workmen's compensation schemes scale the employers' contributions according to the differential risks of various industries. A new twist to this approach has been added with the growing awareness of the impact of personal habits and life-styles on health, illness, and the demand for services: insurance rating may be increased for smokers, drinkers, or people pursuing dangerous sports, and earmarked taxes on such pursuits have been considered. Drastic cuts in the health budgets of many countries are taxing the ingenuity of local governments and individual institutions in a search for other sources of income ranging from lotteries and various forms of betting to all sorts of local citizens' initiatives. To the extent that such schemes succeeed, they restore, of course, the total societal cost of health care. When personal health care expenditure from all sources in a

KOHN

country is taken into account, therefore, there is no justification for the view that it cannot afford universal health insurance or a national health service; arguments to this effect often simply neglect to take account of money spent outside the public sector. All the evidence points to the fact that public universal schemes are not any more costly to administer than a multitude of diverse plans, quite apart from the gaps, overlaps, and inequities inherent in the latter.

Budgeting and administration are, of course, much easier in national programmes. The main problems they have to face reside in the need to achieve a delicate balance between centralization and decentralization, together with optimal equity among geographical areas. The degree and effectiveness of decentralization are closely linked to the degree of local or regional responsibility for funding the services. Any local autonomy must be balanced by some equalizing action on the part of the regional or national government in order to avoid gross inequalities in services between the more and less affluent parts of a country. Where the hiring of personnel and the provision of facilities is, within the context of a national plan, the responsibility of regional and local governments, although the funds come from a central source, as in the case of the National Health Service in the United Kingdom, the equalizing effort must be reflected in the allocation of funds. In thirty years of existence, this service has not succeeded in eliminating inequalities, and a special programme of equalization has therefore been designed by a Resource Allocation Working Party to channel funds to the regions, not only on the basis of population size, but also taking into account some - albeit still very crude measures of need, such as mortality and demographic characteristics. This is being done, however, by 'robbing the rich to pay the poor' rather than by bringing the poor closer to the existing standards of the rich.

Regulation

Regulation or control can have two objectives: a) maintaining standards of quality, and b) controlling costs. It would appear that in most cases considerations of cost control have been predominant, partly perhaps because costs can be more readily measured and departures from the norms more easily observed, but also because the efficiency of administration is all too often judged merely in terms of money saved. Yet, the need for cost constraint is real, and the difficult task of the policy-maker is to contain costs while preserving or even enhancing the quality of the service.

Control begins at the national level when budgets are prepared and intermediate and long-term strategic plans developed. It is at this level that the slice of the cake to be available for personal health service is determined, and it is the size of that slice that sets the overall limit for the public funds available to the health services. Private sector expenditures must find their own level, but this too takes place in the context of the general economic situation. The political processes involved in this basic allocation of funds vary from country to country, and in the private sector they are as varied as the agencies concerned with health care.

It is at this level that the portion of GNP to be available for health care is determined. It must be borne in mind here that health is promoted not only by the traditional, mostly curative, health services but that the new perspective on health, involving life-styles and primary prevention strategies, emphasizes the need for measures directed at health maintenance, control of the social and physical environment (especially the working environment), and consumer education, all of which at best account for only part of the regular health service budget. Housing, nutrition, accident prevention, and the improvement of social conditions generally require funds outside the health budget. The contributions made by the personal social services and their institutions in the community also affect what is required for the medical services. It is at that level that the very basic regulating takes place; this process is the result of values, pressure groups, tradition, and expediency, but - it is hoped -The processes is aided more and more by relevant information. that set the economic framework for the health services are too little understood and seldom, if ever, made explicit. Some time ago it was announced that the then Government of the United Kingdom had set up an 'inner cabinet committee' which would sort out priorities among such major sectors as education, employment, health, social services and others directly concerned with personal welfare and health; however, little more was heard of such an effort.

Once these all-important borderlines regulating health expenditure are drawn, regulatory processes become more specific and visible - here one may cite a recent newspaper report that French doctors had staged a 24-hour strike in protest at a government plan to reduce their fees if they prescribed too many expensive medicines to national health patients.

Regulation may even be counterproductive as regards cost containment. That is evident where public programmes or insurance plans operate on a sectional basis, offering only a limited service. A free diagnostic service for cancer is bound to attract patients with 'suspected' cancer who could be diagnosed much more efficiently in a doctor's office. Because of the high cost of hospital care compared with care in the community, hospital insurance has become much more common in the USA than insurance for other health services. Hence a tendency to seek services in hospital even when they can be obtained equally effectively and more economically, but not covered by insurance, outside the hospital. As in the case of a trade-off between public and private costs, the question is again: cost to whom ? The patient in the situation described saves by going to the hospital, while the insurance carrier loses and the overall cost is forced up. Also in the USA, beneficiaries of the plan for the elderly could not be admitted to a nursing home under the plan unless they were first admitted to a hospital. A similar disincentive to the economic use of services is, in many countries, the shortage of chronic beds or facilities for custodial care, thus attracting to acute beds patients who could be cared for better and more economically in alternative facilities. The relative lack in some countries of appropriate accommodation for chronic patients, especially the elderly, can be seen from the fact that comparisons covering a wide range of countries in Europe and North America show the range among them in the supply of chronic beds to be almost double that for acute beds. Similar disproportions can be found in the supply of nurses per physician or, generally, in the supply of a cheaper as compared with a more costly resource.

Policy decisions sometimes overlook the unwieldy and costly administrative procedures they may entail without any corresponding benefit to anyone. When a Royal Commission on Health Services in Canada discussed recommendations on paying for health care, it inclined to the idea that everyone should be required to contribute according to his means; however, apart from being opposed to the idea of a means test, the commissioners found that the administrative costs of such a scheme would outweigh any gains. This is an example of the disincentives that can be built into a health service system. Another example is the practice of 'defensive medicine' as a protection against possible liability litigation on account of alleged malpractice.

Incentives and disincentives may be implicit in methods of remunerating the providers of services. Where the payment of physicians is on a fee-for-service basis, the weighting of items on the fee schedule may either encourage or discourage cheaper, but equally or more effective, procedures; preventive work, for instance, may be discouraged by the shortage or absence of remuneration for that kind of activity; on the other hand, the schedule for hospital visits may encourage keeping patients in the hospital where several can be seen at one visit. advantages and disadvantages of different methods of paying the doctor - e.g., fee-for-service, capitation, salary, or combinations of these - have been studied and reported on (7,8). Glaser concludes from his study that 'no method of payment is simple and produces easily predictable consequences'. The answer probably is that doctors are human and differ in their motivations. Some may be solely 'in it for the money' and, therefore, there must be controls. But many, or perhaps most, act on motives other than merely, or predominantly, that of financial gain. Here mention may be made of a meeting many years ago on issues of national health insurance and the question of how doctors should be paid. Among those present were the then secretary of the medical association and the dean of economics of the university. The former declared that fee-forservice was the only method to stimulate doctors and to sustain the desirable doctor-patient relationship. To this, the dean of economics replied that he, for his part, took pride in his job and great personal interest in his students, though paid a salary.

Existing payment systems have largely evolved on a traditional basis and, in some cases of major changes in the health care system, were retained in order to placate the medical profession and obtain its cooperation in an otherwise more socialized system. Administratively, salary is certainly the most efficient system; it seems to be working in countries where a hospital doctor is an employee of the hospital, and there is no good reason why it shouldn't work outside the hospital setting. Sweden switched to the salary system several years ago and when Finland implemented its health centre programme, the doctors were paid on a salary basis, though partly in order to put them on the same footing as the other members of the team with whom they were to work. Where the fee-for-service system persists in the context of a public KOHN

health insurance or social security programme, as in the USA and Canada, various methods of control and limitation have been introduced. In the USA increases in prevailing fee levels were limited. In Canada, various provinces tried different methods such as comparing doctors' accounts with profiles of similar practices, setting limits to a doctor's total earnings from the insurance programme, or letting public opinion have its effect by publishing lists of doctors with their incomes from the programme. Keeping profiles of prescribing patterns, as is done in France, is another way of controlling one aspect of medical practice. Requiring generic prescribing similarly aims at cost containment.

Since it is the doctors rather than the patients who determine the demand on the health services, the <u>British Medical</u> Journal ⁽¹²⁾ has in recent issues, published articles containing suggestions from the profession on how to achieve savings without lowering the quality of care. Examples include the restriction of routine screening procedures to high-risk groups, and the use of expensive equipment and operating theatres round the clock, or at least for longer hours during the day.

All these methods of monitoring medical practice are primarily designed to control costs, without interfering with clinical freedom, but they also often contain an element of quality control which becomes more important in certain measures for the surveillance of medical practice, such as those employed by the Professional Standards Review Organization in the USA.

In the hospital sector, too, it is often difficult to distinguish between regulatory activities aimed at quality and those concerned with costs. As in the monitoring of physicians' services and billing, it is more often a matter of detecting overuse than identifying and correcting underuse.

Early concern with quality was left to motivated professionals like Florence Nightingale. Public measures were limited largely to ensuring minimum standards in the structure, equipment, and formal qualifications of staff. Most countries maintain some form of licensing or accreditation. The licensing of hospitals represents a process whereby a public authority grants permission to institutions to perform specified functions; similarly licensing is employed to authorize categories of personnel to perform certain services. Accreditation, on the other hand,

applies only to institutions and their service programmes, ensuring that certain predetermined qualifications or standards are met. Costs began to be monitored, if not always effectively controlled, when the infusion of public funds required accountability and some measure of budget review. In North America, where physicians are appointed to the 'staff' of one or several hospitals but without becoming actual hospital employees, the selection process is to some extent a matter of licensing them for work in the hospital(s) in question. The medical director of a hospital has a supervisory function, which is, however, rather weak, where physicians work in the hospital as independent agents. This sort of medical audit or quality assurance is, especially in North America, increasingly carried out by medical committees and closely related to utilization review procedures, whose main objective is cost containment. All this requires standards by which to judge individual performance. In the USA, such standards were developed by a private agency, which invited hospitals, on a voluntary basis, to provide information on professional activities performed and services rendered in regard to specified diagnoses; with the expansion of the scheme it was possible to circulate standards of current practice to participating hospitals, but without attempting any value judgement regarding them. Under the review procedures existing in the USA, patients may be assigned a length of stay on admission, with review dates set to consider whether continued hospitalization is needed. Canada has similar arrangements, while in Britain a Hospital Advisory Service, set up in 1969, provides for teams of professionals to visit local services and review standards of service. These systems are specifically concerned with the internal operation of hospitals.

Under a national health service, ready means of budgetary control are available. Incentives or disincentives are designed to promote voluntary compliance with national policy. These may lead, if ineffective, to regulation. Regulation, on the other hand, may be relaxed where appeal and incentives for voluntary compliance can be expected to be more effective and promote better morale at the service level. For example, in the USA, the government is now giving grants to hospitals willing to experiment with solar energy, which could bring about substantial savings in fuel bills, apart from reducing the dependence on traditional fuels. It is conceivable that, if an operational solution is found, the use of solar energy may become part of future regulatory require-In the United Kingdom, the health department now circulates ments. descriptions of the money-saving practices tried in some hospitals to health authorities so that they may suggest the adoption of

similar methods in their own areas; these, too, may become required practice, if found to be generally applicable.

In systems involving public financing of health service providers in the private sector, the method of paying the hospital is of particular importance. One US study concludes that the optimal form of reimbursement is 'a cost-based reimbursement system predicated on departmental budgets', but leaves aside the question of what these departmental budgets should be ⁽⁴⁾.

These, then, are the strategies applied at the 'micro' level of the internal operation of hospitals. At the 'macro' level of general policy regarding the hospital sector there is the tool of rationing by budgetary constraints - e.g., by readjusting funding priorities and criteria, as in the cost containment legislation enacted in the Federal Republic of Germany on financing through sickness insurance funds (Krankenkassenkostendämpfungsgesetz), or by cutting down on hospital expenditure, while strengthening primary care, as in the United Kingdom.

In the socialist countries, the problems of cost escalation are similar and also particularly pronounced in the hospital sector. In the Democratic Republic of Germany, for instance, <u>per diem</u> expenditure in hospitals rose to 285% between 1960 and 1978, compared with smaller increases in the ambulatory sector, where expenditure per new case rose to 141% for polyclinics and to 107% for doctors' offices between 1964 and 1978. Here, too, one of the strategies adopted is a strengthening of the ambulatory care sector; whereas in 1965 ambulatory care accounted for a little over one-third of hospital expenditure, the proportion had risen to over one-half by 1975. A rational reassessment of manpower functions is suggested as one means of containing further cost escalation (3).

The danger inherent in across-the-board cuts is that 'the baby may be thrown out with the bath-water' and the hospital service may be permanently crippled. Studies, such as one now carried out in several European countries, aim at finding the 'best buys' by comparing hospital performance in a variety of settings to gain new insights into ways of rationalizing hospital services and obtaining an optimal balance of care. This would involve considerations of manpower mix and functions as well as the application of technology to improve cost-effectiveness.

An indispensable tool in all these approaches is an information system that will provide not necessarily <u>more</u> data, but more relevant data for the policy-maker and manager.

To sum up, it can be seen that different dimensions of change are required and that strategies for change are geared to the type of change desired. Two dimensions of change in health care systems can be distinguished: one aimed at change <u>of</u> the system, based mainly on considerations of social policy; the other concerned with changes <u>within</u> the system to adapt it to changing conditions of a chiefly technological nature. In mixed systems, there is a trend towards greater public involvement and accountability.

Financing mechanisms vary with the nature of the system. The basic distinction is between systems providing the service and systems paying for services provided by pluralistic agencies, institutions, and personnel. Different methods exist in different countries for raising and dispensing the necessary funds.

Regulation is effected in public systems or programmes by budgetary constraints and rationing. Two ways of achieving policy ends are available, i.e., voluntary compliance stimulated by incentives or disincentives, and administrative or budgetary fiat. Measures aimed at cost containment are inevitably bound up with questions of quality assurance and medical audit. The issue remains one of containing costs without losing effectiveness or quality of care. The importance of an appropriate information system must be stressed.

Conclusions

Controls - and it is mainly cost controls with which policymakers are concerned today - are most easily exercised by limiting funds for the provision of services, through budgetary cuts and various forms of rationing. These methods are no doubt effective and immediate. All too often, however, they disregard establish-Also, we must ask ourselves if the services as ed priorities. now provided are as efficient as possible. Since the acute hospital is the main target of cost containment, we may ask ourselves why hospitals in a country, or similar hospitals in different countries, can seemingly do the same thing for the same patient with such widely differing resource inputs. The sameness is, of course, by no means easy to establish, but if cases can be standardized on the basis of severity and outcome, comparisons are likely to reveal ways of rationalizing the system so that savings can be achieved without impairing the quality of care and without longterm damage to health resources. Therefore, the watchword in the

KOHN

design and application of controls should be: Rationalization before Rationing.

The point at which regulation and controls can be applied and their leverage depend not only on the sociopolitical power structure, but largely also on the prevailing funding mechanism. He who pays the piper calls the tune. Local funding means less central control and <u>vice versa</u>; greater infusion of public funds means greater public accountability and corresponding control.

Incentives and disincentives in something as complex as a health care system usually have effects beyond their immediate impact. If patients are insured only for hospital care because it is the most expensive item, then it will attract demands that could be satisfied more efficiently elsewhere. If hospitals receive a bonus for keeping beds empty, there will be more empty beds; if they are paid to keep beds full, then they will do so and at greater cost. Where physicians are remunerated on a feefor-service basis, a ceiling will limit their individual incomes, but if the number of physicians increases, the total cost will rise correspondingly. Mere shifts from the public to the private sector will not in themselves alter the total cost of services. Shifts in emphasis from inpatient to primary care may help in reducing overall costs and at the same time make some form of 'health for all by the year 2000' more feasible. Carrying the same idea further, prevention of coronary heart disease, certain cancers, and other chronic diseases, as well as injuries, by intervention strategies will prove more effective in controlling these conditions, and the cost of care, than treating the sick or injured would be - just as communicable diseases have been controlled by preventive measures rather than by treating those suffering from the diseases, necessary as such treatment is.

As regards cost-effectiveness or cost-benefit, health economists should rid themselves of their inferiority complex about the difficulty of quantifying health benefits. Certainly, there should be some assurance - or at least a high probability that what we are doing has some beneficial effects, or is efficacious. If we can measure the benefit of some outcomes, as indeed we can, so much the better. But attempting to put a price tag on pain relief in terminal cancer, on keeping the elderly active and as healthy as possible, on providing sufferers from kidney disease with life-preserving services is still as inpracticable as it would be to try to quantify the benefits of freedom and

227

security derived from defence expenditures or the benefits accruing to society from grants to symphony orchestras or Olympic teams. For that matter, what is the benefit in hard cash of a city council putting a park bench somewhere or planting an extra tree ? Such issues will, for the time being, have to remain subject to value judgement in the light of social consciousness and social priorities. It would be dangerous to dismiss them solely because they cannot be metricated; the as yet unquantifiable benefits may well outweigh those we are able to measure. For the time being, many of the issues raised by the question 'What price health ?' will have to be assessed in the same way as so many other issues with a bearing on the quality of life in our societies.

References

- Abel-Smith, B. <u>An international study of health expenditure</u>. Geneva, World Health Organization.
- (2) Anderson, O. W. Medical care: its social and organizational aspects. New Engl. J. Med., 269: 839-843, 896-900 (1963).
- (3) Bär, A. H. & Richau, H. Die Entwicklung der staatlichen Aufwendungen und der Beschäfigtenzahl im Gesundheits--und Sozialwesen--Ausdruck der Fürsorge des sozialistischen Staates. 2. gesamte Hyg., 25 (10): 772-775 (1979).
- (4) Cleverley, W. C. Evaluation of alternative payment strategies for hospitals. A conceptual approach. <u>Inquiry</u>, 16 (2): 108-118 (1979).
- (5) Darr, K. J. The Congress and health care rights: a study of national health legislation within the context of specific economic and political indicators, 1947-1970 (thesis submitted to the School of Hygiene and Public Health of Johns Hopkins University, May 1973).
- (6) Director-General of WHO and Executive Director of UNICEF. <u>Primary health care</u>. Geneva, World Health Organization/New York, United Nations Children's Fund, 1878.
- Glaser, W. A. Paying the doctor--systems of remuneration and their effects. Baltimore & London, Johns Hopkins Press, 1970.
- (8) Hogarth, J. <u>The payment of the general practitioner</u>. Oxford, Pergamon Press, 1963.

KOHN

- (9) Institut national de la statistique et des études économiques, Ministère de la Santé et de la Famille, Centre de recherche pour l'étude et l'élaboration des conditions de vie. <u>Comptes nationaux de la santé: méthodologie</u>, <u>résultats, 1950-1977</u>. Paris, Centre de recherche pour l'étude et l'élaboration des conditions de vie, 1979.
- (10) National Center for Health Statistics. <u>Health--United</u> <u>States 1975</u>. Rockville, MD, US Department of Health, Education, and Welfare, 1978 (DHEW Publication No. (HRA) 76-1232).
- (11) Schmidt, R. <u>Materialien zu Kosten und Finanzierung des</u> <u>Gesundheitswesens. Band B. Strukturanalyse des</u> <u>Gesundheitswesens in Schleswig-Holstein.</u> Kiel, Institut für Gesundheits-System-Forschung, 1978.
- (12) 'If I was forced to cut' a series of short articles, British Medical Journal, 1979, vol. 2, from 13 October to 15 December.

Résumé:

On peut concevoir les stratégies déployées en vue du changement à deux niveaux: réaliser le changement du système de soins de santé ou réaliser, au sein de ce système, le changement de son fonctionnement technologique, de son efficacité et de son rendement. Ce sont les valeurs sociales de base en dehors du secteur de la santé qui déterminent l'opportunité d'adopter des changements du premier type. Toutefois, même les pays à économie de marché ont à faire face aux faits combinés que les soins de santé sont actuellement coûteux, même pour les riches, tandis que l'accès à ces soins est généralement considéré comme un droit. Inévitablement, le financement est devenu de plus en plus collectif et public, avec un accroissement simultané des responsabilités et des réglementations. Ce phénomène a fait partie intégrante du nouvel ordre social en URSS, lors des suites politiques de la guerre au Royaume-Uni, dans le cadre des politiques de développement du bien-être en Scandinavie, et il intervient maintenant par la force des choses aux Etats-Unis.

Au niveau technique, le changement des besoins, des techniques et des ressources de santé nécessite une souplesse d'adaptation quant au volume et au type de services de santé offerts, ainsi que

cela s'est produit par exemple pour la tuberculose et les maladies mentales. Cette souplesse est limitée par la rigidité à long terme résultant des investissements en installations et en formation. Le personnel et les bâtiments, lorsqu'ils sont en place, sont difficiles à changer. En outre, les changements en matière de services de santé peuvent avoir de vastes implications pour la communauté. Ces problèmes de complexité et de rigidité ne peuvent être résolus que par une planification permanente et complète impliquant la pleine participation et rétroinformation de tous les intéressés et l'utilisation de toutes les techniques modernes disponibles. Actuellement, notre planification ne tient pas toujours compte des changements même prévisibles, tels que des besoins qui résultent des tendances démographiques. Le développement technologique est beaucoup plus difficile à prévoir; des percées sont imprévisibles et les techniques les plus spectaculaires ne sont pas nécessairement les plus utiles et les plus faciles à appliquer, et vice versa. En outre, récemment, d'importantes tendances se sont progressivement fait jour, mettant l'accent sur les soins primaires, la prévention, l'auto-assistance et la participation locale, les maladies professionnelles, le réexamen des tâches et des aptitudes du personnel, la coordination des services sociaux et de santé et, évidemment, la limitation des coûts. Alors que les interventions médicales étaient limitées, il y avait peu de désaccord sur ce que les patients pouvaient 'raisonnablement' espérer. Aujourd'hui, les possibilités sont si étendues et la technologie si coûteuse que l'efficacité et l'efficience par rapport aux coûts constituent des problèmes clé, qui ont conduit à des changements de politiques aussi fondamentaux que la déclaration d'Alma-Ata.

Bien que l'organisation et le financement des services de santé ne fassent pas précisément l'objet de relations mutuelles, ils subissent une puissante interaction. Les données internationales laissent à penser que les systèmes de santé tendent à être plus structurés dans les pays les plus pauvres et que cela améliore probablement le rapport coût-efficacité et l'égalité d'accès. La croissance des finances collectives et publiques provient à la fois des désirs des clients d'éviter les coûts imprévisibles et des désirs des fournisseurs de s'assurer le paiement de leurs services, mais la situation diffère de pays à pays: dans le Canada d'après-guerre, une assurance maladie unviverselle a été convenue par tous et mise en oeuvre par étapes, aux Etats-Unis, il n'y a eu aucun accord de la sorte, et les problèmes, par exemple ceux des personnes âgées pauvres, ont été pris en charge de cas en cas. Des tendances nouvelles se sont également fait jour vers une plus grande souplesse et un contrôle local de l'utilisation des fonds publics. Les méthodes de financement varient considérablement dans le détail et des limites budgétaires draconiennes dans de nombreux pays stimulent la recherche d'idées nouvelles, allant de primes supplémentaires pour les risques de santé encourus volontairement, en passant par les loteries et impôts à affectation spéciale, jusqu'aux diverses initiatives locales. La comptabilisation de toutes les dépenses privées, souvent négligées dans les relevés de dépenses de santé officiels, tend à infirmer l'argument selon lequel les programmes universels financés sur les fond publics seraient plus coûteux. Le financement local nécessite au moins un certain contrôle local des dépenses, mais il doit également y avoir une certaine compensation centrale pour éviter toutes inégalités géographiques importantes.

La réglementation se concentre essentiellement sur le contrôle des normes et des coûts. Des budgets nationaux de santé peuvent réglementer le coût global du secteur de la santé, mais il faut se souvenir que d'autres secteurs, tels que les services sociaux, le logement, les conditions de travail et l'alimentation influencent également la santé. Néanmoins, des priorités et des systèmes structurés facilitent en général la réglementation. Inversement, des réglementations limitatives, par exemple en ce qui concerne le remboursement pour les soins aux malades non-hospitalisés, peuvent simplement encourager le recours inutile à des soins hospitaliers plus coûteux mais De même, les réglementations en matière remboursés. d'honoraires peuvent fausser le choix fait par le médecin des procédures cliniques, et certaines réglementations peuvent tout simplement coûter plus cher qu'elles ne valent. Parmi les différentes méthodes de rémunération des médecins, aucune ne donne lieu à des conséquences simples et facilement prévisibles, et la plupart résultent de la tradition plutôt que d'une connaissance objective de leurs effets. La rémunération salariée est la forme la plus simple et apparemment la plus efficace, tandis que des systèmes de paiement à l'acte ont nécessité une réglementation de plus en plus sophistiquée.

Au fur et à mesure que les réglementations sur la limitation des coûts se développent, elles pénètrent de plus en plus dans les domaines de la productivité et du contrôle de la qualité,

KOHN

notamment dans les hôpitaux. La plupart des pays disposent d'une certaine réglementation d'accréditation ou d'homologation, de contrôle des normes, des institutions et des professions agréées pour l'exécution de certains services. Les Etats-Unis et le Canada disposent également de procédures d'examens professionnels et au Royaume-Uni, le Hospital Advisory Service procède à des visites et à des examens des services. Les réglementations suivent souvent l'échec des conseils et des stimulants ou, inversement, elles rendent officielles des pratiques qui se sont développées avec succès de manière officieuse.

Au niveau macroscopique, les principaux instruments de contrôle opèrent grâce aux limites budgétaires et à la restructuration des priorités, notamment en faveur des soins primaires et à domicile, une attention croissante étant apportée aux fonctions de main-d'oeuvre et aux combinaisons optimales des divers types de services. Dans toutes ces approches, des systèmes appropriés d'information constituent un outil indispensable pour les gestionnaires et les responsables de la politique. ORGANIZATION AND FINANCING OF HEALTH SERVICES: STRATEGIC CHOICES FOR DEVELOPING COUNTRIES

D. B. Sebina

Introduction

Whatever their state of socioeconomic development, whatever their pattern of disease and demographic situation, and whatever the state and organization of their health and social services, all countries may be considered to share in a common aim as far as the health status of their populations is concerned - to maximize the benefits derivable from limited resources. Of course, many different types of solution are proposed for attaining this objective - and what is right for one particular country may well be totally wrong for another - and yet the common theme of 'health economics' should be continuously present. Although the definition of 'health economics' may differ from place to place, it is here interpreted in a dynamic, policy-orientated way as a mechanism through which progress to stated objectives may be optimized in the face of constrained resources.

The aim of this paper is not so much to dwell on theoretical concepts, such as the different types of health benefit or the various characteristics of models of health services; but rather to discuss in some detail the actual position in Botswana - the background situation, the health problems, the economic constraints, priorities, and policies, and some of the criteria used for assessing the progress made. Much of the information, particularly on the patterns of expenditure and sources of finance, was derived from a recent research project undertaken by the Ministry of Health in Gaborone, in collaboration with the University College of Botswana, the World Health Organization, and the Sandoz Institute, This was an explicit attempt to analyse resource use Geneva. for the last financial year, and to draw policy conclusions. Ιn addition, however, two particular case studies have been selected - one on the role of mobile services, and the other on procedures for purchasing pharmaceuticals - to try to illustrate the practical use of health economics, and ways in which the stated criteria can be utilized to monitor improvements. At the outset, however, it must be firmly stressed that no attempt is being made to put forward a necessary prescription for other countries - rather the following is presented in the spirit that it may perhaps be of some interest to other countries besides Botswana.

Background Information about Botswana

It is of great importance to make a few brief comments about the country of Botswana, the population, and the organization of its health services, before it can be shown how health economics has been used there to improve resource allocation. The Republic of Botswana has an area of about 570 000 km^2 , and an estimated (de facto) population of only 763 000 (1978). In other words the population density of the country as a whole is just over 1 person per km^2 . About 84% of the land surface is covered with kgalagadi sand, which supports a low, savannah-type vegetation. Indeed the availability of water is a dominant influence on the pattern of human settlement, and 80% of the population lives in the catchment area of the Limpopo River in the eastern part of the country. In other parts of the country there are discontinuous and sparse settlements, and altogether there are a dozen different tribes. Although the last census was in 1971, it is believed that the population growth rate is still about 3% per annum, the mortality rate in the first two years of life about 126 per 1000, and the life expectancy at birth 53 years for males and 59 years for females.

As far as the organization of health services is concerned, the Ministry of Health has portfolio responsibility for the health of the nation. In addition the Ministry of Health runs the Government's referral facilities - seven health centres (with bed numbers ranging from 8 to 57), eight general hospitals, and the single psychiatric hospital. However, the basic health services - 200 health posts staffed by community health workers and 80 clinics staffed by nurses - are operated on a decentralized basis by the district and town councils. Although these local authorities are responsible for the daily operation of these services, professional supervision is provided by nine regional health teams which are part of the Ministry of Health. In addition, although the Ministry of Health is firmly committed to an integrated and comprehensive system of health care delivery, a number of special units (such as maternal and child health/ family planning, health education, and epidemiology) have been set up to deal with particular programmes or disease problems. These are based in Gaborone, but work through the regional health teams and the basic health facilities.

In addition to the government facilities, medical missions operate three general hospitals, a health centre, and six clinics. There are also two industrial hospitals (both run by mining companies), a further two private clinics for the employees of the abattoir, and about 14 private doctors in practice. The overall bed/population ratio is about 2.8 per 1000.

Again, without going into detail, it should be pointed out that the staffing of the health services depends primarily on nurses. Although there are only about 85 doctors altogether in the country, there are over 1000 nurses (476 registered nurse/ midwives and 530 auxiliary nurses). There are also 94 health assistants and a total of about 350 family welfare educators (the community health workers).

The Health Problems in Botswana

In broad terms the health problems of Botswana are quite similar to those of most other developing countries. The following two tables show respectively the frequency of morbidity and mortality.

	Nur	nber	<u>r_%</u>	
Cause group				
All causes	51	679	100.0	
Normal deliveries	13	122	25.4	
All diseases and conditions	38	55 7	74.6	
Causes specified below	27	860	53.9	
Complications of pregnancy, delivery, and				
the puerperium	5	645	10.9	
Accidents, poisonings and violence	5	358	10.4	
Diseases of the genitourinary system	3	031	5.9	
Measles	2	646	5.1	
Tuberculosis, all types	2	557	4.9	
Diarrhoeas	2	458	4.8	
Influenza and pneumonia	2	049	4.0	
Diseases of the skin and subcutaneous tissue	1	720	3.3	
Bronchitis, emphysema and asthma	1	282	2.5	
Diseases of the heart	1	114	2.2	
Symptons and ill-defined conditions	1	654	3.2	
All other causes	9	043	17.5	

TABLE 1. MORBIDITY RATES (ALL AGE GROUPS), 1977

	Nu	mber	_%
Cause group			
All causes	1	517	100.0
Causes specified below	1	164	76.7
Tuberculosis, all types		248	16.3
Measles		147	9.7
Certain perinatal causes (including prenativity))	142	9.4
Diseases of the heart		127	8.4
Influenza and pneumonia		115	7.6
Diarrhoeas		114	7.5
Malignant neoplasms		91	6.0
Accidents, poisonings and violence		78	5.1
Avitaminosis, malnutrition and anaemia		61	4.0
Diseases of the genitourinary system		41	2.7
Symptoms and ill-defined conditions		50	3.3
All other causes		303	20.0

TABLE 2. MORTALITY RATES (ALL AGE GROUPS), 1977

As a short commentary on the above figures, it may be noted that, despite an extensive BCG vaccination and treatment campaign, tuberculosis is still a major cause of both morbidity and mortality (particularly in the older age groups). If the data are further broken down, it may be seen that diarrhoeas, influenza, pneumonia, and measles figure prominently, particularly for age groups under 15 years of age; and that, for children under 5 years of age, avitaminoses, malnutrition, anaemia, and certain perinatal diseases also rank high in the lists of both morbidity and mortality. Sexually transmitted diseases have been rising (according to the official statistics), and skin infections are also a major problem. In addition, accidents, poisonings, and violence are a serious cause of morbidity and mortality. Respiratory and intestinal infections are also widespread, the main contributory factors being an unhealthy environment (unclean water supplies, lack of proper sanitary facilities, poor housing, and insufficent and improper food) and unhealthy personal attitudes and lack of knowledge about hygienic practices.

Botswana's Economic Context

The per capita income in Botswana is roughly US\$ 580 (1977/78), though the distribution of income and wealth is so skewed that a major survey carried out in 1974/75 found that as much as 45% of the households in the rural areas had incomes below the rural poverty line. However, regarding expenditures

236

SEBINA

explicitly on health services and activities, a comprehensive analysis has recently been made of the patterns of expenditure and their corresponding sources of finance in 1978/79. The aim of this study was basically twofold: first to examine the present pattern of resource use and see the extent to which stated priorities are being carried out; secondly, as a followup to a similar study carried out in 1977, to ascertain what changes, if any, there may have been in the intervening two-year period.

The Pattern of Resource Use

In view of the fact that Botswana is still essentially a poor country, it is interesting to see the amounts and patterns of expenditure by the various authorities and agencies. The analysis below looks in turn at each of the 'institutional' health services - i.e., the Ministry of Health itself, other central government ministries, the local authorities, the missions, and industry.

Ministry of Health

The Ministry of Health was found to have spent a total amount of about Pula 8.9 million in 1978/79, of which 81% went on recurrent activities and 19% on development projects. Of the recurrent expenditure, hospitals accounted for 59% of the total (or 69% if the government subsidy to hospitals run by missions is also included). Excluding recurrent expenditure on headquarters, training, and miscellaneous items (notably the mission subvention), inpatients accounted for 51% of the total, outpatients 19%, prevention 12%, and field administration and support 18%. Virtually all of the Ministry of Health's recurrent expenditure was financed out of general government revenue.

On the development side, a total of Pula 1.65 million was spent, of which 79% was used for the expansion of the National Health Institute. Only 3% of the development expenditure was financed by the Government's domestic funds, with the rest coming predominantly from foreign sources.

Other Central Government Ministries

The total expenditure by other central government ministries, either in support of the operations of the Ministry of Health or on other health-related activities, was estimated at roughly Pula 5.86 million in 1978/79. Of this, 53% was accounted for by the Department of Water Affairs, and a further 18% by the Central Transport Organization; 69% of the total went on recurrent activities, and 31% on development projects. The recurrent activities were entirely financed by central government revenue, while the development projects were entirely financed from foreign sources (88% bilateral and 12% multilateral).

District Councils

The district councils spent about Pula 3.2 million on the provision of health services and health-related activities in 1978/79, of which 61% was on recurrent activities and 39% on development projects. Estimated per capita recurrent expenditure ranged from Pula 2.79 to Pula 8.42 between districts. Of the recurrent expenditure, 3% went on inpatients, 30% on outpatients, 40% on prevention, and 28% on field administration and support. Concerning sources of finance for the recurrent and development expenditure of the district councils, it is estimated that 28% came from general (central) government revenue, 34% from the district councils' other revenue sources, and 38% from bilateral foreign cooperation.

Town Councils

In 1978/79, town councils spent about Pula 1.6 million on the provision of health services and health-related activities, of which 64% was recurrent and 36% for development. The recurrent expenditure was predominantly (69%) on preventive services, though the <u>per capita</u> recurrent expenditure varied from Pula 7.77 to Pula 10.59 between towns. Because of the Government's policy of non-subsidization of the urban areas, such expenditure was financed either directly or indirectly out of the town councils' own sources of revenue.

Missions

In 1978/79, the missions spent a total amount of nearly Pula 1.6 million of which about 97% was on the recurrent provision of health services; 45% of their expenditure was on inpatients, 22% on outpatients, 12% on preventive activities, and 18% on administration and support. As far as their sources of finance were concerned, the Ministry of Health provided a subsidy of Pula 859 500 - 54% of the total.

SEBINA

Industry

The health services provided by industry in Botswana in 1978/79 are estimated to have cost nearly Pula 1 million - of which about 60% was spent by Debswana at their hospital at Orapa. In addition, however, capital projects for the expansion or improvement of these health services are estimated to have cost a further Pula 82 000.

It is particularly interesting to amalgamate the above data, and see the relative importance of each sector in the overall volume of expenditure (and the breakdown between recurrent and development expenditure).

TABLE 3. BREAKDOWN OF EXPENDITURE BY INSTITUTIONAL PROVIDERS OF HEALTH SERVICES IN BOTSWANA, 1978/79.

	Re	ecuri (Pula	rent a)	Developmen (Pula)		oment La)	Total (Pula)			- 7.
Ministry of Health ^a	6	388	826	1	649	305	8	038	131	37.8
Other central government	0	500		-		505	Ū	000		
ministries	4	061	000	1	798	000	5	859	000	27.5
District councils	1	950	101	1	262	574	3	212	675	15.1
Town councils	1	021	145		478	855	1	500	000	7.1
Missions	1	528	000		55	000	1	583	000	7.4
Industry ^b		998	500		82	000	1	080	500	5.1
Total	15	947 (75.0	572 0%)	5	325 (25%	734 %)	21	273	306	100.0

- ^a The Ministry of Health's subvention to the missions is not included in its recurrent expenditure.
- ^b For industry, only expenditure on the provision of health services was included.

Simply from the above figures - and it is possible to break them down much further in order to examine particular items of expenditure (for example, cost of food per inpatient-day at different hospitals) or broad functional categories - it may be seen that the Ministry of Health itself accounted for only about 40% of total recurrent expenditure. Or, to put it another way, the <u>per capita</u> expenditure by the Ministry of Health alone, under its recurrent budget (excluding the subvention to the missions), was about Pula 8.4 (\$ 10.1); whereas the <u>overall per capita</u> recurrent expenditure was Pula 20.9 (\$ 25.3). Recurrent and development expenditure combined gives a <u>per capita</u> expenditure of about Pula 27.9 (US\$ 33.7).

Although these figures are of course specific to Botswana and their relevance to other countries is only relative, the main point being made is a general one. This is simply that it is important to look at the health services as a whole, both from the point of view of their day-to-day operation and management and also from that of planning and resource use.

However the recent study did not deal merely with the 'institutional health services', but went further. This was mainly because the scope of the study was defined in terms of purpose or intention rather than achievement or result - this corresponds to the definition used by a recent WHO Study Group⁽¹⁾. It was therefore decided to include various other health-related activities and expenditures. To take the example of industry again, the mines in Botswana spent considerable sums on such areas as mine safety and particularly air pollution control. Indeed it is estimated that these amounted to about Pula 1.45 million on a recurrent basis and about Pula 3.1 on capital projects. The total health-related expenditure by industry thus came to about Pula 4.53 million altogether.

In addition, certain other areas were considered to have used resources specifically for health-related reasons - these included a parastatal agency, foreign cooperation, voluntary organizations, and commerce. When aggregating the totals of course, one must remember to avoid duplication (for example, where there is financing of government development projects by foreign cooperation), and yet it is instructive to look at each area in turn.

Parastatal Agencies

The only parastatal agency included in the study was the Water Utilities Corporation (WUC). It is estimated that about Kl l million of water was sold by WUC in 1978/79 and used for health-related activities (drinking, personal hygiene, etc.), and that the cost of supplying this amounted to roughly Pula 346 000. The WUC operates on a commercial basis and the cost of the supplies was covered by consumer payments.

SEBINA

Foreign Cooperation

Foreign cooperation is particularly important in the health sector in Botswana. In 1978/79 it is estimated that the total value of such cooperation was about Pula 10.9 million, of which 37% was on a bilateral basis and 63% on a multilateral basis. Supplies through the World Food Programme accounted for 37% of the total, while development expenditure through the government's accounts accounted for a further 47%.

Voluntary Organizations

Voluntary organizations in 1978/79 spent nearly Pula 1.8 million in the health sector in Botswana - of which 85% came from voluntary organizations based abroad. Funds for refugees accounted for about 67% of the expenditure, while only Pula 62 700 (i.e. 3.5%) represented funds for development projects provided through the Government.

Commerce

Four commercial medical insurance schemes were in operation in Botswana in 1978/79, but they were on a relatively small scale, and it is estimated that the contributions of their members came to only about Pula 103 000.

Private Individuals

Apart from the above, however, it was found that private individuals also spent very substantial sums on the promotion of their own health or in seeking cures for diseases or complaints. For example more than Pula 400 000 was spent on fees at clinics and hospitals, etc., while over 50% more than this was spent on the services of private doctors. It was estimated that about Pula 500 000 may have been spent by residents of Botswana in seeking health care services in adjoining countries. Of even greater importance, however, was the expenditure on traditional practitioners within the country. It was estimated that there may have been about 7600 traditional practitioners (diviners/ herbalists and also faith-healers) in Botswana, and that the sums paid to them (in cash and kind) may have been in the region of Pula 3.3 million. Finally it should also be mentioned that Pula 1.3 million was spent on health-related purchases from shops - about Pula 160 000 on drugs and medicines, and about Pula 1 140 000 on patent medicines and first-aid items.

Even ignoring the indirect costs and contributions inevitably incurred in seeking health care services, it may be seen from the above that private individuals themselves may have spent something over Pula 6 million on health and related services - in other words, an amount equal to about 85% of the recurrent expenditure of the Ministry of Health, or roughly Pula 8 (\$ 9.8) But if one wants to go even further, it was also per capita. estimated that private individuals spent (or produced in value on a subsistence basis) about Pula 91 million on food; and about Pula 7 million on basic housing (in the rural, periurban, and site-and-service areas). While it is somewhat controversial whether such expenditure genuinely falls within the scope of a survey like this, the amounts serve to underline the important role of individuals themselves not only in the promotion of their own health, but also in the use of the relevant resources.

Self-Help Activities

In considering resources devoted to health services and activities, self-help or community projects should not be forgotten. In fact these are on a relatively small scale in Botswana, and it is estimated that their total value may have come to only about Pula 50 000 in 1978/79.

Changes in the Pattern of Resource Use

Although it is often difficult to monitor changes in the overall pattern of resource use, it is important to try to assess the degree to which stated objectives are in fact being met. An attempt was therefore made, in the recent study on patterns of expenditure and sources of finance, to compare the results with a similar study done two years before. Because, however, the scope of the two studies was slightly different, and because some of the assumptions used in the analysis of the data differed, great care had to be taken to distinguish the real changes in resource use. Nevertheless, mention might be made of some outstanding points.

In the first place, the expenditure in most of the sectors rose substantially in the two-year period, even taking inflation into account. For example, the recurrent expenditure of the Ministry of Health rose by about 25% from 1976/77 to 1978/79. However, the dependence of health development projects on external sources of finance continued - or even increased - and the role of foreign cooperation in general grew considerably. This was partly accounted for by the refugee problem, in connection with which considerable resources were made available, especially through

SEBINA

foreign cooperation and voluntary organizations. As for the mission facilities, their financial problems were eased somewhat by the introduction of a new methodology for the calculation of the government subsidy for their recurrent activities. On the other hand, the health-related activities of industry were found to be of major importance in 1978/79, principally as regards expenditure on air pollution control measures. The proportion of the total expenditure incurred by private individuals was also found to have increased, although the relevant estimates were subject to relatively large margins of error.

Priorities and Policy

A great deal of attention has been given above to some of the economic aspects of Botswana's health services and activities - but it is believed that, once disease problems have been analysed, it is then necessary to study economic and financial constraints before optimal health policy can be formulated. Other constraints (such as manpower, technology, and organization, etc.) will not be considered here, as they will be taken up in greater detail later in the conference.

In view of the identified health problems and economic constraints, the government has now selected the adoption of primary health care as its top objective for the forthcoming National Development Plan V which will cover the period up to 1985. In many ways the selection of primary health care was a logical extension of the objectives of the previous National Development Plan, and in practice will mean the continuation of much that is already being done.

At the same time, however, it must be clearly appreciated that with limited resources it will always be necessary to make decisions on the allocation of resources between competing needs and not only will many ongoing activities in various spheres naturally call for expansion and improvement, but several new and important additional areas have been identified as needing support. It will therefore be essential for both continuous and periodic evaluations to be made to ensure that resource use is consistent with stated priorities. Besides periodic analyses of patterns of expenditure, etc., resort can also be made to the monitoring of various criteria in order to assess progress made. These criteria of course are not themselves 'objectives', but rather proxy indicators of the objectives.

Criteria for the Establishment and Monitoring of Targets

Three particular criteria are often discussed in the literature: coverage, effectiveness, and efficiency. Each of these will be discussed in turn, after which case studies relating to the first two criteria will be presented.

As far as coverage is concerned, the Ministry of Health has prescribed a radius of 15-km for the catchment area of the basic health facilities. It is acknowledged that other countries may apply other standards, and indeed there has been a lot of discussion in Botswana about the advantages and disadvantages of reducing the distance to say 5 or 10 km. Yet, as Botswana is a big and thinly populated country, and especially as the people are used to travelling quite long distances, it has been decided to retain the existing standard for the time being.

Anyway, under the present system, it is estimated that about 85-90% of the population is covered by some sort of health facility. This relatively high coverage is largely due to a major project (now in progress for about six years) whereby a network of clinics and health posts is being built up in rural It should however be pointed out that the estimate Botswana. applies to the village homes of the people and that, particularly in the rainy season when the people leave their villages and go to their lands and cattle posts, the coverage may sometimes be In addition, it may be noted that, in contrast to rather lower. several of the districts in the east, which have a coverage rate of nearly 100%, the western districts (such as Gantsi and Kgalagadi) have rates of only 65-70%. These are the remote areas of the country where nomadic tribes live, and they pose special problems as regards the provision of health services in a costeffective way. This matter, and especially the role of mobile health services, will be discussed in more detail later in this paper.

Regarding effectiveness, it is extremely difficult to quantify the ultimate effects of health services - and, even if changes in the actual health status of the people could easily be gauged, there would still be the problem of trying to identify the causative factors. In other words, one would have to try to find out the extent to which any improvements were due to the health services as such, as opposed to environmental changes, better personal or community health practices, or other factors.
SEBINA

In this situation, it is therefore usually necessary to resort simply to certain indicators of effectiveness (such as vaccination rates, or numbers of babies delivered in supervised conditions). In this respect, it may be noted that the estimated immunization coverage of the target population of Botswana in 1977 was 70% for diptheria-pertussis and poliomyelitis; 45% for measles; 85% for BCG; and 90% for smallpox. As far as deliveries under supervision are concerned, the proportion is estimated at about 65%.

The efficiency of the health services is also very difficult to quantify. However, certainly in the case of Botswana, it is possible to point to certain areas of particular concern. One of these relates to the problems involved in staffing the remote health facilities, especially the health posts and clinics. These problems are compounded by the fact that the conditions of service for nurses are actually worse in the rural areas under the local authorities than under the Ministry of Health, although this issue is currently being examined by a Presidential Commission on Local Government Structure. However, the question of inducements for service in remote areas is a complex one, with many different possible approaches, and must also be reviewed in the light of the staffing situation and problems for other groups (such as the police, community development officers, teachers, etc.).

A second area which may be mentioned is that of hospital and health service administration. To some extent the situation in this area is improving as the result of a course recently set up to train administrators, but there is no doubt at all that many of the existing facilities are run inefficiently in one way or another.

Thirdly, the maintenance and repair of hospital and clinic equipment present a major problem in Botswana. In the past there was rarely anyone to do preventive maintenance work or to carry out actual repairs on malfunctioning items. Large and expensive items of equipment (X-rays, microscopes, autoclaves, etc.) have had to be sent outside the country for repairs. Small appliances which have stopped working (possibly only because a plug end was loose, or because a fuse or bulb had burnt out) have often been stored away as useless and new ones ordered. In order to improve the situation, the Ministry of Health is having a number of technicians and maintenance man trained, but it is still expected to be some time before efficiency in this respect is noticeably improved. Other examples of inefficiency could be given, but it is felt that the above may be of general relevance to other countries, as well as Botswana. In any case, what must be emphasized is the need to make maximum use of existing resources - often a great deal more output (benefits) can be attained even without additional inputs.

Two Case Studies

In view of the above-mentioned criteria, it was thought appropriate to present the two following case studies - the first looking at ways of improving coverage, and the second looking at ways of improving effectiveness. Again, while these two examples are taken from the experience of the Ministry of Health in Botswana, it is believed that the principles illustrated are of more widespread interest.

1) The Use of Mobile Health Services

It has already been explained that most of Botswana is very thinly populated, and that about 10-15% of the population are at present outside the catchment area of fixed health facilities. In this situation, it is not surprising that over the years, there has been a great deal of discussion of the possibility and implications of the use of aircraft to supplement the existing health care delivery system.

The first proposal for a flying health service for Botswana came in the form of two reports by the African Medical and Research Foundation International (based in Nairobi) in July and November 1972. These reports recommended that the Ministry of Health purchase two Cessna 206 aircraft, one to be based at Gaborone and the other at Maun. It was suggested that they would carry out a range of both scheduled and emergency activities and would work in conjunction with a radio communications network. The proposed service was to be a separate mobile unit having its own pilots and medical and other staff. In 1972, the capital cost of the project was estimated at slightly over Rand 191 000, and the recurrent costs Rand 91 500 per annum. Although at the time there was considerable interest in these proposals, it was decided to postpone the decision to implement them.

Two years later, there was a further consultancy report concerned primarily with the development of the hospitals in the country. This report, however, also suggested that the government should purchase a single aircraft and organize a less SEBINA

elaborate flying health service than the one proposed by the African Medical and Research Foundation International. This aircraft would be used for supervisory trips by medical personnel and for the provision of emergency supplies on a highly selective basis. The supplementary use of charter aircraft when necessary was also suggested, and it was proposed that the entire scheme should be established only as a pilot project.

Although the Government came very close to adopting the proposal to purchase at least one aircraft for the Ministry of Health, it decided to request a further consultancy report in 1975 with the following terms of reference:

- To assess the relative value of mobile health services (with special reference to land vehicles and aircraft) in increasing the effective coverage of the rural population of Botswana by primary health services.
- To make specific recommendations regarding the potential use of aircraft in the health services of Botswana.
- 3) To carry out a more general examination of the principles involved in the use of mobile facilities in the health services of developing countries.

Although it is not possible here to review the whole of this report (which, for example, made cost-effectiveness comparisons of fixed and mobile health services), it is relevant to mention its conclusions concerning the use of aircraft. The overall strategy proposed was for the Ministry of Health to charter (rather than purchase) an aircraft and use it for only 12 days per month. It was argued that the Ministry could not usefully employ a plane on an organized and scheduled full-time basis, and that its consequent underemployment would lead to its diversion to 'emergency' work (much of which would not be for true emergencies at all). It was also argued that it would be difficult for the Ministry to organize the maintenance and the relevant administrative tasks properly, and that the whole operation would almost certainly be expensive and inefficient. In short the report's analysis showed that planes should be used only for limited (supervisory) purposes; and that, with the limited usage proposed, it would be more economical to charter a plane on a scheduled basis than have the Ministry of Health operate a plane itself.

Although the Government has reservations about much of the 1975 report, the recommendations in the report were broadly accepted. Two of the regional medical officers now each make 3-4 day trips by plane around some of the remote clinics which they supervise, and planes are also chartered for specific 'mercy' flights. It may be noted, however, that with the establishment of more and more of the basic health facilities and with the installation of radios at many of them, there has been an increasing demand for the use of aircraft for genuine emergency work - and the Ministry of Health is again finding its budget under great pressure in this connection.

While the question of the use of planes in improving the coverage of health services, especially in remote areas, may not apply to all other developing countries, the above example is nevertheless felt to be of importance simply for the fact that the eventual policy decision was based essentially on an economic analysis.

2) The Purchase of Pharmaceuticals

The second case study will be discussed rather more briefly and concerns the system of purchasing pharmaceuticals. Expenditure on pharmaceuticals or drugs usually accounts for 10-15% of a health service budget - and in fact the recent study on the expenditure of the Ministry of Health and local authorities found that in Botswana in 1978/79 the proportion was about 12%. In many countries, however, the effectiveness of such expenditure could be improved considerably by better purchasing procedures and this may be illustrated by the experience of the Government of Botswana.

In Botswana the Central Medical Stores is virtually the sole supplier of drugs to the health services (though the mine hospitals do make some separate purchases). Most procurement is by annual tender, which is on an international basis, and by this method Botswana has often been able to obtain lower prices because of the wider competition. However there are a number of problems that still need to be overcome - within the country, regionally, and internationally - for the effectiveness of these drug purchases to be maximized.

For example, there is the much-discussed issue of the patent rights of the multinational drug firms. While accepting the fact that the companies which develop drugs are entitled to recover the

SEBINA

research costs, etc., this recovery factor sometimes appears to be applied at too high a rate and over far too long a period. For instance, the patent rights of a drug that had already enjoyed such rights for ten years have now been extended for a further ten years (as the drug has been found to be effective in another field). The Government of Botswana has been offered this particular drug by the patent-holder at a unit price of \$ 27.00 whereas a 'private' company offered the same drug at only \$ 1.87.

There are many other practices (such as 'transfer pricing') which are used by the multinational companies to maximize their global profits and which it is difficult for individual developing countries to resist on their own. However, there are some lines that can be explored - for example, regional bulk-buying, technical cooperation between developing countries concerning up-to-date information on market trends, and possibly communal quality control laboratories - with a view to ensuring that countries make the most effective possible use of the funds available to them for the purchase of pharmaceutical products.

Conclusion

This paper has attempted to discuss the health problems of Botswana, the economic context within which the country's health policy must be formed and carried out, and some criteria that may be used in the process of planning evaluation. Two selected case studies were also presented to try to illustrate the importance of economics in some aspects of decision-making in the sphere of health services.

While no pretence can be made that Botswana is completely typical of all developing countries, it is felt that it has enough in common with the others to make its experience of some general Although still poor, Botswana actually has a higher relevance. per capita gross domestic product than many other developing countries. The coverage of the population by its health facilities is already relatively high, and some of its programme areas (for example, vaccination campaigns) have been notably successful. And yet, in common with most other developing countries, its disease pattern still essentially reflects a situation of poverty, ignorance, and an unhealthy environment; and its health services, with their very limited resources, face high and rapidly rising costs. However, the application of economics to many problems can help to ensure that maximum value for money is obtained.

Reference

(1) WHO Technical Report Series, No. 625, 1978 (Financing of health services. Report of a WHO Study Group).

Résumé:

Tous les pays, développés et en développement, cherchent à tirer le maximum de profits de leurs ressources limitées. L'économie de la santé doit être présente en permanence en tant que mécanisme dynamique et à orientation politique pour optimaliser les progrès en vue d'atteindre les objectifs indiqués dans le cadre de ces limites de ressources. Le présent document résume la situation au Botswana : ses problèmes, ses contraintes, ses priorités, ses politiques et ses critères d'évaluation.

Le Botswana a une superficie de 570.000 kilomètres carrés et une population de 760.000 habitants environ, croissant au rythme moyen de 3% par an. Le Ministère de la santé a la responsabilité globale des services de santé et il gère huit hôpitaux généraux, un seul hôpital psychiatrique et sept centres de santé. Des conseils municipaux et de districts gèrent les services fondamentaux comprenant 200 postes de personnels sanitaires communautaires et quatre-vingt cliniques dotées d'infirmières. Les missions médicales gèrent trois hôpitaux supplémentaires, un centre de santé et six cliniques; il y a deux hôpitaux miniers et un petit secteur privé de 14 médecins et deux cliniques. Le taux global de lits par mille habitants est de 2,8. Les 85 médecins du pays sont aidés par quelque 480 infirmières/sages femmes, 530 infirmières auxiliaires, 94 assistants sanitaires et 350 membres du personnel de santé communautaire.

Un quart environ des services de santé porte sur des accouchements normaux et un dixième supplémentaire concerne les complications obstétriques, les accidents, empoisonnements et actes de violence. Les maladies génito-urinaires, la rougeole, la tuberculose et les diarrhées, notamment chez les enfants, représentent chacune 5 à 6% des interventions. La principale cause de décès est la tuberculose (16%), suivie de la rougeole et des maladies périnatales (plus de 9% chacune). Les maladies cardiaques, la grippe et la pneumonie ainsi que les diarrhées représentent ensuite respectivement 7 à 8% de tous les décès. La malnutrition constitue un problème sous-jacent important et

250

les maladies vénériennes sont en augmentation. Le taux de mortalité infantile jusqu'à l'âge de deux ans est d'environ 126/1.000.

Bien que le Botswana ait un revenu annuel par habitant de \$ 580, sa répartition asymétrique place 45% des foyers au-dessous du niveau de pauvreté rurale. Une enquête sur les dépenses relatives à la santé en 1978/79 a fait apparaître un total de Pula 21,3 millions (Pula 27,9 ou \$ 33,7 par habitant), dont 75% (Pula 20,9 par habitant) de dépenses courantes et le reste d'investissements pour le développement. La ventilation du total est instructive : Ministère de la santé 37,8%, autres ministères (essentiellement eau et transport) 27,5%, conseils de district 15,1% conseils municipaux 7,1%, mission (subventions comprises) 7,4%, industries 5,1%. Le total des dépenses était donc deux fois et demie supérieur à celui du Ministère de la santé en tant que tel, presque tous les fonds pour le développement provenant de l'aide étrangère. Plus d'un tiers des dépenses des conseils municipaux et de districts étaient consacrées à des projets de développement, et les dépenses ordinaires ont mis l'accent sur la prévention, tout en variant considérablement entre les districts (Pula 2,8 - 8,4 par habitant) et entre les villes (Pula 7,8 - 10,6 par habitant).

Une analyse encore plus étendue fait apparaître des dépenses supplémentaires considérables; par exemple l'aide étrangère relative à la santé s'est élevée à Pula 10,9 millions et les organisations bénévoles, essentiellement à l'étranger, ont donné Pula 1,8 million. En outre, les particuliers ont dépensé un montant substantiel de Pula 6 millions (égal à 85% du budget ordinaire du Ministère de la santé). Là encore, la ventilation est instructive : honoraires de cliniques et d'hôpitaux Pula 0,4 million, soins dans les pays voisins Pula 0,5 million, soins traditionnels Pula 3,3 millions et médicaments vendus au comptant et articles de premiers secours Pula 1,3 million.

La comparaison avec une enquête similaire réalisée en 1976/77 a fait apparaître une augmentation de 25% dans les dépenses du Ministère de la santé, une utilisation croissante de l'aide étrangère, essentiellement due aux problèmes des réfugiés, une contribution importante de l'industrie (notamment pour la sécurité minière et la lutte contre la pollution de l'air - Pula 4,5 millions en 1978/79) et des particuliers. La toute première priorité en matière de santé pour le cinquième plan national de développement jusqu'en 1985 porte sur les soins de santé primaires, et des enquêtes telles que celles qui sont mentionnées ci-dessus permettront de prévoir des affectations de ressources compatibles avec ce plan.

On suit le progrès en faisant appel à des critères de couverture, d'efficacité et d'efficience. Un secteur d'un rayon de 15 kilomètres a été défini pour chaque poste sanitaire principal. Sur cette base, 85-90% de la population est actuellement couverte à la suite de programmes de développement permanents. Mais, dans quelques secteurs éloignés, la couverture n'est que de 65%. Il est difficile de mesurer l'efficacité réelle et des indicateurs intermédiaires tels que les taux de vaccination (par exemple 85% pour le B.C.G.) et la proportion des accouchements surveillés (65%) doivent servir de base d'extrapolation. L'efficience est également très difficile à quantifier mais les problèmes comprennent l'affectation de personnel à des services dans des secteurs éloignés, l'amélioration dus administrations ainsi que l'entretien et la réparation du matériel.

Deux études de cas illustreront l'utilisation faite par le Botswana des critères ci-dessus. Une analyse du rôle des services de santé volants a conclu qu'un arrangement limité par charters serait plus rentable que la mise à disposition d'un avion par le Ministère de la santé. De même, une étude des conditions d'achats de produits pharmaceutiques a indiqué qu'un approvisionnement centralisé avec un appel d'offres international basé sur la concurrence est efficace pour obtenir des prix plus bas. Une longue protection par les brevets et les pratiques concernant les prix de transfert posent également des problèmes de prix élevés aux pays en développement comme le Botswana, mais des améliorations pourraient être apportées, par exemple grâce à des achats groupés régionaux, et au partage des services d'informations sur les marchés et de contrôle de qualité entre les pays en développement.

Le panorama ci-dessus ne prétend pas démontrer que le Botswana est caractéristique d'autres pays en développement ni que l'application qu'il fait de l'économie de la santé offre un modèle à généraliser, mais on peut espérer que d'autres pays y trouveront des éléments qui conviendront à leurs propres besoins.

En rouvrant la séance, le modérateur invite les conférenciers à inclure dans leurs interventions quelques suggéstions sur la suite à donner à la réunion sur le plan pratique.

Gomaa: I would like to present to the Conference the pattern of Health Services Organization in Egypt. It illustrates a model of successful co-existence between the two philosophies which Professor Roemer identified in his paper as the entrepreneurial, and the social equity philosophies. However, the long-term policy is towards greater equity, through expanding health insurance to cover more people.

Comprehensive access to health care services at an affordable cost is assured to the Egyptian population of 41 million people as a constitutional responsibility of the government. This is met by the government operating a national health-care system that provides services to the population for a nominal registration fee per contact. The Ministry of Health oversees the operation of this system which includes rural health facilities, urban, maternal and child centres, health offices and school health units and hospitals, multi-disciplinary clinics, and general and specialized hospitals with large outpatient facilities. Teaching hospitals of nine medical schools provide a full range of secondary and tertiary care services and outpatient care. The hospitals are under the control of medical faculty deans, the universities and the Ministry of Education. The Ministry of Health's several research institutes provide inpatient and outpatient health-care services on a referral basis. These research institutes, together with several specified big general hospitals, provide teaching facilities to the medical faculties. An Egyptian can request health care at any government facility he chooses with no referral requirement.

The Ministry of Health also regulates the Egyptian health insurance organization, which provides comprehensive health services to about $1\frac{1}{2}$ million employed Egyptians, i.e. about 20% of total government employees. Only employees are enrolled in the system, spouses and children are excluded. The health insurance organization operates an ambulatory care clinic system and ten hospitals for inpatient care. It has a strict well defined referral system. The private health-care system is used primarily by upper and middle-income Egyptians. An estimated 75% of the active physicians in urban areas devote late afternoons and evenings to private fee-for-service practice, after their government job obligations in the Ministry of Health or the Ministry of Education are met. Ministry of Health physicians assigned to rural areas are permitted to make home visits to patients for which they can charge low fees, tax free. Small proprietary hospitals, under a variety of ownership arrangements, account for less than 5% of hospital beds in Egypt. The total bed population ratio in Egypt is 2.25% of population.

Pharmaceuticals are provided free in all governmental facilities. The cost of pharmaceuticals is partially subsidised, and prices are fully regulated by the central government. The general consumption of drugs in Egypt is quite high. About half the total national expenditures for health are for pharmaceuticals, but 85% of the pharmaceuticals sold in Egypt are produced by Egyptian public sector companies, supervised by the Ministry of Health.

Compared with most developed nations, Egypt has a large pool of educated and trained health professionals, particularly physicians and pharmacists. Its staff to population ratios are: physicians, 1 per 1500; pharmacists, 1 per 12 000; dentists, 1 per 12 000; nurses, 1 per 1900 people.

The Ministry of Health system is the nominal provider of health care services to Egyptians who have annual <u>per capita</u> incomes of less than £ 150 or about \$ 214, roughly estimated at 32 million people, i.e. about 80% of the population. Annual <u>per capita</u> income in Egypt is 210 Egyptian pounds, i.e. about \$ 300. Egypt is divided into 25 local government areas. The Ministry of Health delegates operational management of health care services to these local governments, with guidelines for further delegation of some functions to the district and village levels. However, much effective operational control, particularly budget determination and financial management, still resides at the central level. The Ministry has retained authority for policy formulation and planning, standard setting, and monitoring and evaluation of performance.

With regard to financing, public and private health services expenditure is between £ 7 and £ 8 per capita, i.e. \$ 10 to \$ 11.4. Maximum self reliance is promoted in local rural communities. They are encouraged to build up health programmes

with their own resources as much as possible. Total health service expenditure amounts to about 4.5% of the gross domestic product. Three percent of overall government expenditure is spent for health.

Certain basic criteria are used to establish priority among health problems, notably the magnitude of the problem, and the relative impact on the community in terms of its effect on productive power. On this basis, because of its prevalence among rural inhabitants, schistosomiasis leads the list of health problems. This illustrates the mediatory effect on health on productivity as mentioned in Professor Popov's paper.

Decisions have also to be taken on the share of resources to be devoted to the health sector, and to particular services within it. Particular attention is paid to the balance between capital and current expenditure, and to spending on materials.

A good <u>data base</u> of health related information is considered important, and research started in July 1977 on a health profile of Egypt. The interview questionnaire includes questions on income and expenditure at the family and individual levels. These health profile surveys follow the lines of the work mentioned in Professor Popov's paper, as a basis for planning and improving health service interventions.

In conclusion, we found that one of the very important economic determinants of health problems in a developing country is the degree of equity in the distribution of income between population groups, especially the chronic urban-rural differential. Sandier: Dans le temps imparti, il n'est guère possible de discuter l'ensemble des points soulevés dans les riches présentations qui ont été faites. Je vais donc me borner à illustrer avec le cas de la France une des propositions du Professeur Roemer, selon laquelle la socialisation croissante du financement des soins médicaux a conduit et conduira probablement encore à un contrôle accru des modalités économiques et même des conditions techniques de la production des soins. Je distinguerai, d'une part, l'évolution passée en France, - c'est-àdire ce que l'on a pu réellement observer - et, d'autre part, les projets actuels des pouvoirs publics, dont personne ne sait s'ils déboucheront réellement et sur quoi.

Il est tout à fait évident que dans la mesure où le financement public est devenu de plus en plus important, non seulement en valeur absolue mais aussi en pourcentage des dépenses médicales, le pouvoir de pression et d'intervention de la Sécurité sociale sur les producteurs de soins s'est accru dans le passé; ceci s'est traduit surtout au plan des rémunérations et des prix, mais aussi dans une certaine mesure au plan de la diffusion des techniques.

Prenons le cas des honoraires médicaux. Il y a près de 20 ans, dans les débuts du système conventionnel, l'Assurance-Maladie, plus soucieuse de faciliter l'accès aux soins que de problèmes financiers, s'est pratiquement contentée d'officialiser les prix médicaux en vigueur, et l'expansion des soins médicaux a correspondu à une nette progression des revenus médicaux; puis, les négociateurs ont acquis une expérience - à laquelle les études économiques ne sont pas étrangères - et il s'en est suivi une période pendant laquelle la progression des prix médicaux a été contenue dans des limites plus étroites; progressivement, dans un climat d'inflation, et où la forte croissance des effectifs médicaux diminuait le pouvoir de pression des syndicats de médecins, les prix des soins se sont accrus encore moins rapidement; enfin, depuis quelques années, le pouvoir d'achat des médecins augmente moins vite que celui de l'ensemble de la population.

Une évolution du même type concerne les produits pharmaceutiques. Le pouvoir des organismes d'Assurance-Maladie découle dans ce cas de la possibilité de décider si oui ou non

un produit pharmaceutique sera inscrit sur la liste des médicaments remboursables. Or, les critères retenus précisent que le médicament, pour être inscrit, doit soit correspondre à une réelle innovation, soit entraîner une économie dans le traitement. Les producteurs ne sont donc pas libres de fixer leurs prix: le résultat est que les prix des médicaments en France sont parmi les plus bas d'Europe et qu'ils s'accroissent beaucoup moins vite que l'indice général des prix.

Par contre, au niveau des hôpitaux, l'influence de l'Assurance-Maladie s'est fait moins sentir au plan économique qu'au plan technique; des établissements privés ont dû se moderniser et d'équiper pour bénéficier de l'agrément de la Sécurité sociale; on peut même dire que, par ce biais, les coûts de production se sont trouvés accrus.

Un autre aspect, non négligeable, du rôle de l'Assurance-Maladie a été la mise en place de systèmes statistiques élaborés, qui permettent l'analyse et la surveillance de l'évolution de l'utilisation et du coût des soins. On peut citer à ce propos l'exemple des tableaux d'activité des praticiens, plus familièrement désignés sous le titre de 'profils médicaux'. Il s'agit d'une statistique qui, pour chacun des médecins, totalise le nombre d'actes, les montants facturés, les prescriptions de pharmacie, d'analyses, d'arrêts de travail. Ces tableaux fournissent les éléments d'un contrôle du comportement des médecins; ils devaient permettre le rappel à l'ordre de certains 'gros prescripteurs'. En fait, l'utilisation des profils a été jusqu'à présent très discrète, mais il est certain que leur existence est un premier pas dans la limitation du principe de liberté de prescription. A ce sujet, il serait injuste d'oublier que l'établissement des profils a été suggéré au départ par la profession médicale ellemême, dans un but d'autodiscipline. Le principe même des profils est que le comportement moyen est le bon, et on est loin ici de l'idée que les médecins sont plus préoccupés de leurs intérêts matériels que de la santé de leurs patients.

Venons-en à la situation actuelle : dans notre domaine, elle est caractérisée du côté des pouvoirs publics par un discours qui se veut énergique et par l'annonce de mesures visant à ralentir la progression des dépenses de soins. Cette attitude, contrairement à ce qui est souvent affirmé, ne résulte pas de l'emballement des dépenses, puisqu'en fait le niveau de la dépense médicale en 1978, 1979 et sans aucun doute pour 1980 est tout à fait conforme à ce que nous avions prévu en 1974, lors de la préparation du VIIe Plan et cette prévision avait à l'époque été entérinée par le Gouvernement et le Parlement. Non, l'attitude des pouvoirs publics correspond aux conséquences de la situation économique actuelle sur le financement des soins médicaux. Cette situation n'est malheureusement plus considérée comme une crise, mais plutôt comme une tendance nouvelle à laquelle il faudra bien s'adapter et cette nouvelle tendance est peu enthousiasmante. C'est une croissance économique très ralentie, accompagnée d'une forte inflation, est c'est aussi l'extension du chômage. Or, en France, le financement des soins étant assis sur les salaires, la montée du chômage prive de facon mécanique l'Assurance-Maladie d'une partie de ses ressources; puisque les chômeurs, s'ils perdent leur travail, conservent heureusement leurs droits d'assurés sociaux, il n'y a pas de raison pour que les dépenses ralentissent. Le déficit s'accroît donc. Ou'envisage donc le Gouvernement ? Sa ligne de conduite est pour l'instant liée à deux croyances 🛊

- Première croyance, l'opinion publique accepte mal la réduction des prestations; elle accepte mieux un accroissement des cotisations. C'est vrai, et les taux de cotisations ont été relevés deux fois depuis le début de l'année 1979 sans trop de problèmes, tandis que dans le passé des mesures d'accroissement de la participation financière des ménages ont dû être en partie reportées. Mais on n'est peut-être plus très loin du seuil de l'intolérable.
- Seconde croyance : l'offre crée la demande. La limitation de l'offre et le contrôle des prix pratiqués apparaîssent donc comme une solution à une partie du problème. Les cibles actuelles des mesures gouvernementales sont donc les producteurs de soins : hôpitaux, médecins, industrie pharmaceutique.

Avant de détailler les mesures envisagées dans ce domaine, je tiens à préciser que cette deuxième croyance, si elle n'est pas complètement fausse, est loin d'être une vérité absolue. Cela relève de la naïveté de considérer le malade comme un être qui abandonne tout esprit critique, toute volonté, dès qu'il entre dans le système de soins. De plus, cela est faux et nous l'avons personnellement montré, ainsi que Mme Deliège, à propos des soins de généralistes. Un accroissement du nombre des généralistes n'induit pas une demande supplémentaire de soins; V. Fuchs a

montré que 10% de chirurgiens en plus ne faisaient s'accroître la dépense chirurgicale que de 3%. Et peut-on croire que les revenus médicaux auraient perdu du pouvoir d'achat si les médecins avaient été maîtres de leur niveaux d'activité ? La proposition que l'offre crée la demande est même fausse pour l'hospitalisation, puisque l'on constate que certains services sont vides et que l'on envisage même de les fermer.

Mais venons-en aux mesures actuelles en France, annoncées le 25 juillet dernier. Il y a d'abord Jes mesures conjoncturelles : la hausse de cotisations dont j'ai déjà parlé, mais aussi l'annulation des revalorisations d'honoraires médicaux en violation d'un accord passé en début d'année; le blocage des prix pharmaceutiques alors que tous les autres prix industriels ont été libérés; l'encadrement des budgets hospitaliers. Mais la grande idée, dont on ne peut être sûr qu'elle réussira, c'est 'l'enveloppe globale', c'est-à-dire la fixation <u>a priori</u> d'un taux de croissance pour la dépense médicale, et le taux proposé actuellement est le taux de croissance du produit intérieur brut, c'est-à-dire, compte tenu des perspectives actuelles, une progression annuelle de 2 à 3% du volume des soins. Pour apprécier l'amplitude du coup de frein, je précise que la tendance antérieure était une croissance de 7% par an.

L'enveloppe globale pour les hôpitaux signifie un coup d'arrêt dans l'embauche des personnels; au niveau des médecins, cela signifie qu'on leur demande d'arbitrer entre la progression de leurs tarifs et le montant de leurs prescriptions. Du côté des médecins encore, on envisage le renforcement de la sélection dans les facultés de médecine pour limiter la progression des effectifs de médecins qui est actuellement de l'ordre de 6% par an.

On peut se demander quelles sont les chances de réussite ou même d'application des politiques annoncées ? Il est bon de redire ici qu'une politique, pour être réaliste, ne doit pas trop heurter le contexte social du moment, les valeurs dominantes de la société. Or, il est à craindre que nous soyions malheureusement dans ce cas à propos des mesures envisagées. On l'a dit hier, dans une période de chômage le secteur de la santé apparaît comme créateur d'emploi et une limitation trop stricte des budgets hospitaliers se heurterait, se heurte déjà à des oppositions au plan local, où l'hôpital joue un rôle important dans l'économie régionale; on peut s'attendre dans ce domaine à des pressions politiques pour faire lever les verrous. De même, les restrictions budgétaires vont se heurter aux intérêts des industries d'appareillage médical et à l'industrie pharmaceutique, accentuant le chômage et contrariant la tendance à exporter de cette branche. D'ailleurs, si le patronat en général est favorable aux mesures respectives, il n'en est bien sûr pas de même pour le patronat des industries médicales.

Les professions médicales ne sont pas prêtes à accepter la politique globale gouvernementale. Il y a deux semaines, 95% des médecins français étaient en grève, soutenus par les syndicats ouvriers. Pour la première fois depuis longtemps, les deux syndicats médicaux se sont trouvés réunis pour protester à la fois contre le blocage des honoraires et le principe d'enveloppe globale.

On peut comprendre les craintes des médecins. Au moment où leur nombre s'accroît de 6%, on leur propose de limiter d'eux-mêmes à 2% la croissance de leur production, c'est-à-dire, en clair, d'accepter une diminution annuelle moyenne de 4% de leur pouvoir d'achat. Quelle est la fraction de la population qui accepterait cela ? On peut comprendre l'appui de la population, qui soutient le refus des médecins de sélectionner parmi leurs malades ceux que l'on soignera comme par le passé et ceux sur lesquels il faudra faire des économies.

La population, les partis politiques se sont montrés favorables au mouvement de grève des médecins; ils n'acceptent pas les mesures gouvernementales et craignent le développement d'un double secteur : une médecine de riches, une médecine de pauvres. Cela ne va pas avec le progrès social, ce n'est pas ce qui a été voulu par les législateurs de l'Assurance-Maladie.

Cette situation serait d'autant plus choquante que l'on parle de pléthore médicale. Comment ne pas au contraire saisir l'occasion de la croissance rapide des effectifs médicaux pour résorber les inégalités d'accès aux soins. Il serait absurde et inadmissible que d'un côté, des médecins soient au chômage, que des jeunes se détournent des professions sanitaires, et que d'autre part certaines catégories de la population manquent de soins.

Le sens de ces remarques était de souligner que si le développement de l'Assurance-Maladie conduit à un contrôle de l'activité médicale, ce contrôle doit être clairvoyant; il ne doit s'exercer que dans la perspective d'assurer à chacun les meilleurs soins, aux meilleurs coûts et avec un minimum de tensions sociales.

Kalimo: The growing role of the public sector in the provision and financing of health care has been one factor in focussing discussion on the question of increasing health expenditure, even if it has not influenced the trends in public and private expenditure on health. This highlights another group of factors relating to the organization of health care, and to the nature of social security schemes, that may also be quite influential in affecting health expenditure. These factors lend themselves much more easily to deliberate changes by social security or health service administrations.

With the accumulation of information about health expenditures in different countries, knowledge of the background factors contributing to the increase in such expenditure has grown, but still relatively little is known about the extent to which health expenditure may depend on the organization and financing of health services. These matters are of the greatest relevance also to social security administrators in promoting the development of sickness insurance schemes and health care systems that will be as effective and efficient as possible.

The International Social Security Association (ISSA), within the framework of its Permanent Committee on Medical Care and Sickness Insurance, has for a number of years undertaken statistical and other inquiries in this area, mainly on the costs of sickness insurance schemes, which have been analysed in several reports. Following these inquiries, a report was prepared on 'The general causes of the increase in sickness insurance expenditure on medical care', which contained a number of proposals for future work on the problem.

Taking into account other cross-national studies on health expenditures, it was then decided to change the title of the study in progress to 'The relationship between trends in health expenditure, the system of financing and the type of organization of health care'.

The study is expected to yield findings that could support the preparation of innovative measures within the health care system and its financial subsystem to contain health care costs and increase efficiency. The study is thus intended to help social security administrators find better ways of allocating funds and bringing about any necessary changes.

The main objective of the study is therefore to show, by a comparative analysis of the relationship between trends in health expenditure and the organization of health care, including the system of financing, those organizational aspects that may be assumed to lead to changes in health expenditure.

It was agreed that explicit guidelines would be prepared and used as a common framework in the preparation of national monographs by each of the participating countries. The study examines the evolution of health expenditure over about 15 years. So far eight countries, with widely different health service systems, have submitted their national monographs. The final report is expected to be presented at the forthcoming General Assembly of the ISSA in October 1980.

Data on six participating countries were analysed in a preliminary statistical report presented to the ISSA Permanent Committee on Medical Care and Sickness Insurance in September 1979. The findings seemed to support some general conclusions. It was the steady increase in health care expenditure and especially in public expenditure that prompted the initiation of the study. The preliminary results confirmed the upward trend in health expenditure that prevailed in almost all of the countries surveyed until 1976. Not surprisingly the increase in health expenditures had been faster than that in gross national product, but not faster than that in some other social security expenditures.

Although the distribution of expenditure on health care was highly similar in all the countries, the rate of growth of the costs of different types of health service varied from one country to another. There were also variations in the sources of funds, but the majority of these were explained by changes in the financing of health services, often reflecting deliberate health policy decisions.

One lesson easily, but not new, learnt is the inadequacy of health information systems regarding costs. There seem to be severe deficiencies even in national level cost data, and it proved difficult for the national reporters to follow the relatively simple guidelines. Such shortcomings make international comparisons of health expenditures at once illuminating and frustrating. Their quality will be severely hampered by the nature of the data, unless countries do more to develop their health information systems. This may involve further research

on the economic aspects of health care. If we want to conduct this kind of systems-oriented research from a standpoint of equity, as suggested by Professor Roemer, i.e. according to the rational consumer approach, much more should be done in the way of comparisons among types of health service, and among population groups by geographical area and demographic and social characteristics within countries.

I believe that the relationships between research activities and the management of the health services should be greatly strengthened, so that appropriate research may be done to support health service administrators and policy-makers in their decisions about the economic aspects of health and health care. In this way, care would be more often based on conceptual frameworks and empirical findings than it is today.

<u>Tschopp:</u> Les organisateurs m'ont demandé de lier mes commentaires à l'expérience de la Suisse. J'aimerais distinguer dans mon propos deux niveaux d'analyse : celui, technique, des méthodes de production de services sanitaires, et celui de leur financement.

Les contributions d'hier nous ont montré qu'il existe une grande uniformité au niveau de la technologie médicale prédominante dans les pays industrialisés. Elle est le fait de la rapide dissémination des progrès scientifiques et techniques en la matière. Les méthodes de financement, quant à elles, sont beaucoup moins homogènes et se distinguent fortement de pays à pays. Il peut être utile, sur la base de cette distinction, d'opposer les systèmes intégrés aux systèmes décentralisés.

Les systèmes intégrés sont caractérisés par le fait que production et financement sont du ressort des mêmes autorités qui appliquent des critères d'allocation univoques et cohérents et en matière de production et en ce qui concerne le financement. C'est le cas de l'URSS et, dans une certaine mesure, de la Grande-Bretagne. Dans ces systèmes intégrés, le souci d'efficacité qui se traduit par la meilleure allocation possible des ressources réelles est amalgamé à la recherche de la meilleure équité en matière de mise à disposition des fonds nécessaires pour leur financement.

263

Dans les systèmes décentralisés, la production de services sanitaires est en principe gouvernée par des mécanismes de marché. Il y a certes des éléments de collectivisation, notamment dans le domaine hospitalier, mais fondamentalement l'offre de soins est censée répondre à des principes de production privée. Le financement est détaché de cette réalité productive; il est, en général, collectivisé au moyen d'organismes d'assurances dont le caractère public varie selon les pays. Le financement repose ainsi sur trois types de transferts qui peuvent s'entremêler :

- ceux entre malades et bien-portants (principe d'assurance),
- ceux entre contribuables et malades (financement par l'Etat),
- ceux entre malades (opérés par les offrants de biens et services sanitaires au moyen de la discrimination par les prix).

Un bref mot d'explication en ce qui concerne ce dernier type de péréquation. Il présuppose l'existence de structures monopolistiques sur le marché des biens et services de santé et se fonde sur la discrimination qui est opérée entre demandeurs par les offrants au moyen des prix. Le chirurgien, par exemple, qui facture au malade pauvre un prix égal au coût marginal de l'opération, tout en compensant ce sacrifice de profit au dépens d'un patient plus aisé, provoque un tel transfert. Des péréquations semblables sont opérées par les producteurs pharmaceutiques sur un plan international. L'on constate, en effet, que les prix de vente des spécialités pharmaceutiques varient fortement d'un marché national à un autre. De cette discrimination résulte un transfert des consommateurs sur des marchés à prix élevé au bénéfice des producteurs et des consommateurs sur des marchés où les prix sont plus bas.

Le financement des systèmes décentralisés est typiquement du genre <u>'open ended'</u> et son envergure est en dernière analyse définie par les offrants, en particulier le personnel médical. Le Professeur Kohn formule l'hypothèse qu'il existe, au niveau des économies de marché, une corrélation entre le type de système prévalent (intégré ou décentralisé) et les possibilités financières des pays en la matière. Les pays très riches tels les Etats-Unis, ou encore la Suisse, peuvent pratiquer la décentralisation et le financement <u>'open ended'</u> grâce à leur revenu élevé par habitant. Le système centralisé traduit dans cette hypothèse l'existence

264

d'une contrainte budgétaire plus accusée, qui existe par exemple en Grande-Bretagne. On prête en général au système décentralisé les principaux avantages suivants :

- rapide intégration du progrès médical et technologique dans la pratique médicale;
- adaptation immédiate de l'offre de biens et services médicaux à la demande, surtout si la rémuneration des offrants est faite sur la base du nombre d'actes;
- minimisation des frictions politiques et des conflits d'intérêts entre les producteurs de biens et services médicaux eux-mêmes et entre ceux-ci et les consommateurs; possible coexistence, enfin, entre idéologies divergentes, le libéralisme économique et des idéaux socialistes, par exemple.

Face à ces avantages, il convient de citer les inconvénients suivants, qui semblent se révéler de plus en plus redoutables :

- gaspillage de ressources lorsque l'offre 'prédestine' la demande, en d'autres termes lorsque l'offre devance la demande tout en la provoquant;
- tendance à un déséquilibre entre l'évolution des prix médicaux par rapport à celle des autres prix dans l'économie (explosion des coûts sanitaires);
- modification donc des rémunérations relatives entre personnel médical et autres offrants sur le marché de la santé comparées au reste des salaires et rémunerations, ce dernier inconvénient me paraissant être le facteur explicatif majeur de l'augmentation inquiétante du nombre de médecins et d'étudiants en médecine, sans parler de la concentration du personnel médical en milieu urbain.

Au fur et à mesure que ces inconvénients s'affirment par rapport aux avantages, un contrôle plus serré d'abord et une planification d'ensemble ensuite s'imposent. Cette tendance est manifeste en Suisse aussi.

Les systèmes décentralisés évoluent ainsi en direction d'une plus forte intégration à mesure que l'efficacité de la décentralisation apparaît moins convaincante et que, de ce fait, les tensions entre offrants et demandeurs augmentent. La très forte poussée des coûts en matière sanitaire traduit, en effet, une inefficacité croissante du système. Le Dr Kleczkowski a mis en évidence cette problématique, hier, en parlant d'une tendance en faveur d'un certain rationnement. Par le contrôle accru qu'il implique, le recours à des profils de traitement, dont a parlé Mme Sandier, s'inscrit dans ce même contexte. Or, ces réformes, qui visent une meilleure efficacité allocative et opérationnelle, ne sauront être acceptées socialement sans une meilleure intégration des sphères de production et de financement que celle qui caractérise le système actuellement en vigueur en Suisse.

Rutten: In his stimulating paper Professor Roemer pointed at two important forces in health care, which he described as 'entrepreneurialism' and 'social pressure towards equity'. The latter force can be interpreted in a broad sense as the pressure towards an efficient provision of health services solely in relation to the needs of people. Professor Roemer noted the existence of a tension between these two forces and observed that there is a world-wide trend toward increasing organization of both financing and delivery of health care, leaving less room for interpreneurial influences in the future. I will follow this line of thought in relation to a number of difficulties one encounters on the road to comprehensive planning in health care.

As is generally known, a number of serious market imperfections prevents the health care sector from operating efficiently in a free market situation. Most important are the monopoly position of suppliers with respect to information, and the uncertainty associated with the incidence and severity of illness. Market failure and the existence of externalities have induced the belief that health care provision should at least partly be under collective responsibility. The first concern then was to provide the funds for a reasonable level of health care provision, which led to the introduction of large public insurance schemes or financing from general revenues. With economic stagnation in the second half of the seventies and the consequent reduction in resources available for health care growth, it has become clear that focussing only on financing health care provision does not necessarily produce an efficient and effective health services system. For some time now we have faced the consequences of neglecting the pre-existing entrepreneurial forces in health care provision, and now have to make difficult corrections. In doing this two principles can be followed.

The first principle is that of regulation of inputs. Following this principle presumes that at the decision making level choices can be made according to some conception of the need of the population and that some notion exists about the way health care provision should be organized to meet the population's demand. Scientific standards for determining the population's need are not available and can hardly be developed in an objective way. More information is being produced with respect to different ways of providing care and possible ways of substitution between these. Regulatory plans should be based on both health systems research, aimed at the issue of substituion and complementarity of health care facilities, and procedures for estimating need through participation of consumers in the decision process at the regional level. This direction has been chosen by the Dutch government in preparing the health care facilities act.

Ample evidence is available that regulation of health care inputs should be comprehensive; that regulation should concern not only numbers of hospital beds or numbers of nursing personnel, but all investment and manpower. Evidence from the certificate of need programmes in the Unites States of America has shown that regulating only numbers of hospital beds may result in an additional increase in plant assets per hospital bed thus offsetting initial savings through the control of the number of beds. Similarly, in the Dutch situation, where beds and major investments in hospitals are controlled, the increase in health care costs is due mainly to an increase in number of physicians, and an increase in therapeutic and diagnostic activities per physician, neither of which are controlled by the government. In the period 1975-1977 the number of medical personnel increased by 15%, while diagnostic activities increased with 30%. The latter phenomenon is consistent with the hypothesis that physicians under a fee for service system try to maintain a fixed target income. These examples illustrate that in making regulatory plans one should take account of entrepreneurial forces in health care.

The second principle may be characterized as the liberal market perspective. Entrepreneurialism is a basic ingredient here, and attempts could be made to use this force to improve the efficiency of health care provision. In a small subsector of the health care system, where consumption is elective and patient decided, this principle can be followed by introducing copayment. In many publicly financed health care systems copayment schemes have been introduced or extended. Even in the Dutch system, which has fairly extensive coverage for the publicly insured, it is planned to introduce several measures next year. Among these measures are an increase in copayment for patient transportation, and an introduction of copayment for maternity care in hospital, for plastic surgery and for drugs. Several American studies have reported price elasticities of the demand for health care, these vary in size but are in some cases quite considerable. This suggests possibilities for reducing consumption through copayment, leaving open the question about the quality of care, and a possible shift in medical consumption away from preventive medicine.

In most instances, however, the influence of the patient on decisions about medical treatment is limited. The health care provider may be regarded as an agent, who takes decisions about medical treatment on behalf of the patient. Under simple fee for service payment systems for physicians, financial incentives may induce physicians to generate more services than actually necessary. Other modes of remunerating physicians should be considered, in combination with budget systems for health care institutions, to provide incentives for preventive medicine. primary care and outpatient specialist treatment. Professor Roemer mentioned 'prepaid group practice health plans', which sometimes very ingeniously combine patients' and providers' incentives towards efficient health care provision. The extensive literature on the performance of health maintenance organizations (HMO's) reveals that subscribers of HMO's pay less for their medical care annually than those who receive care from fee-for-service practitioners, and who are covered by more traditional kinds of insurance. More specifically, HMO members spend 25-50% fewer days in hospitals than their fee for service counterparts. In other words, entrepreneurialism can be a very effective weapon against health costs inflation, provided it is properly directed to maximize social benefit.

In summary, it is useful to distinguish between the 'needologist' paradigm and the liberal market perspective when describing possible future roads to cost containment in the health care sector. In both options one encounters difficult problems. In the former there is the complex problem of developing an efficient public choice mechanism. The latter confronts the government with the problem of having to devise incentive schemes on the basis of

268

incomplete information on the behaviour of health care providers. For different subsectors of health care provision different solutions may be chosen, depending on the possibility of restoring consumer souvereignty in the medical market; the transparency and complexity of decisions on resource allocation; and the extent to which limits can be set to professional freedom. As already indicated, elements of both views could be combined to produce a solution, which is both effective and feasible.

Martin: * Le Canton de Vaud, (chef lieu Lausanne), compte 385 communes et 525 000 habitants, dont la moitié vit dans des localités de moins de 10 000 personnes. (17.5% dans les 316 communes de moins de 1000, et 32% cans les 60 communes de moins de 10 000 habitants.

Le système de santé du Canton de Vaud est basé sur environ 750 médecins libéraux. Quelque 35% d'entre eux sont des omnipraticiens (mais il faut noter aussi qu'une partie de la pratique des spécialistes de médecine interne est de type médecine générale). Seulement 25% des médecins (omnipraticiens et spécialistes) sont installés dans les communes de moins de 10 000 habitants. Les soins hospitaliers sont fournis par un réseau d'hôpitaux régionaux et le Centre hospitalier universitaire vaudois à Lausanne.

En Suisse les cantons ont une autonomie importante. Les domaines de l'instruction publique et de la santé, parmi d'autres, sont de leur compétence (de plus, à l'intérieur de chaque canton, les prérogatives des communes sont considérables, y compris pour les questions médico-sociales et de salubrité publique). La formulation et la mise en oeuvre d'une politique de santé se font donc au niveau de 26 unités relativement autonomes (les cantons et demi-cantons) et les compétences de l'Etat fédéral sont limitées. Une certaine coordination intervient au niveau de

^{*} Cette discussion est basée sur un papier 'L'Evolution récente et les Orientations adoptées dans un Canton Suisse' par les auteurs suivants: Dr J. Martin: médecin cantonal adjoint, M. C. Kleiber: Chef du Groupe de planification et gestion sanitaires, M.G. Tinturier: économiste, Service de la santé publique du Canton de Vaud, M. A. Chauvie, Secrétaire général du Département de l'intérieur et de la santé publique du Canton de Vaud.

régions ou du pays, par des arrangements intercantonaux (en particulier sous les auspices de la Conférence des directeurs cantonaux des affaires sanitaires), mais les centres de décision restent largement aux gouvernements cantonaux.

L'évolution du secteur hospitalier vaudois

Alors que la pratique de la médecine est d'essence libérale, les pouvoirs publics se sont toujours préoccupés de problèmes sanitaires. Ainsi, le Gouvernement du Pays de Vaud se fait conseiller depuis plusiers siècles par un <u>Conseil de santé</u>, formé de membres des professions médicales, de juristes et d'autres personnes. Le développement de l'infrastructure hospitalière d'intérêt public a commencé assez tôt dans ce siècle:

'Les constructions d'hôpitaux se font à jet continu, aussi le Conseil de santé s'occupe-t-il d'un plan d'ensemble capable de prévoir, pour une longue série d'années, le développement de nos services hospitaliers en rapport avec les besoins'.

Compte rendu annuel du Département de l'intérieur (dicastère gouvernemental responsable pour la santé publique) pour 1917.

Ce n'est que quelque quarante ans plus tard, que le Service de la santé publique de ce Département acheva l'élaboration d'un Plan hospitalier cantonal. Il faut souligner que, à part le Centre hospitalier universitaire de Lausanne, la plupart des établissements psychiatriques et quelques autres institutions, la vingtaine d'hôpitaux d'intérêt public (sans but lucratif) du canton, sont des associations ou fondations privées (auxquelles participent dans certains cas les pouvoirs publics locaux). L'idée d'une planification hospitalière devait donc tenir compte de ce fait essentiel et de ses implications politiques. Le premier document, édicté en 1966, avait en conséquence le caractère d'un plan directeur indicatif.

En 1963 le réseau hospitalier en soins généraux était constitué d'un grand nombre de petits hôpitaux régionaux n'atteignant souvent pas 100 lits, datant pour la plupart du début du siècle, de l'Hôpital cantonal qui comptait 1135 lits, et des cliniques privées (à but lucratif). L'ensemble comprenait environ 3700 lits. Plusieurs hôpitaux étaient vétustes.

En générale les cas aigus et de maladies chroniques étaient hébergés dans des conditions identiques, les malades chroniques 'bloquant' un nombre important de lits. En psychiatrie, le vieillissement du réseau était encore pire qu'en soins généraux, et les lits étaient peu décentralisés: deux tiers des 1170 lits de psychiatrie étaient concentrés à l'Hôpital psychiatrique universitaire.

Le dévouement du personnel hospitalier religieux, la sousrémunération d'une grande partie du personnel, et une activité hospitalière moins médicalisée et moins technique avaient permis de maintenir les dépenses hospitalières à un niveau relativement bas (prix de journée moyen en soins généraux en 1962: 47 francs, valeur de l'époque).

En émergeant lentement de la tradition d'institutions charitables, la consommation médico-sanitaire de cette époque était caractérisée par un développement de la demande hospitalière et médicale, qui faisait suite à une longue période de stabilité pendant laquelle peu d'initiatives avaient été prises. La situation économique d'expansion forte et continue, la situation démographique de croissance rapide en raison de l'imigration de travailleurs étrangers (la population du canton a passé de 408 000 habitants en 1958 à 480 000 habitants en 1965), les progrès de la médecine et les espoirs qu'ils suscitaient, la prise de conscience d'un droit aux soins, le progrès du système social et la prise en charge croissante des frais, le vieillissement de la population*, tout concourait à stimuler la demande de soins.

Les hôpitaux, prisonniers d'enveloppes caduques, ne pouvaient satisfaire la demande. Il fallait organiser, hiérarchiser, harmoniser, et développer le réseau sanitaire, hospitalier et médico-social,** et accélérer la formation de personnel soignant. Ce fut la mission du Plan hospitalier de 1966. Avec des ressources mises à disposition par l'Etat, les caisses-maladies,

271

^{*} La proportion des personnes de plus de 65 ans dans la population suisse, qui s'est maintenue aux alentours de 6% jusque vers 1920, était montée à 11% en 1966 et atteindra 15% avant l'an 2000.

^{**} Le terme médico-social s'applique ici aux établissements pour malades chroniques, âgés et handicapés.

certaines communes et des institutions et personnes privées, le Plan a présidé à un effort d'investissement qui représente un programme d'environ l milliard de francs suisses, dont les 9/10 sont actuellement engagés. De ce milliard, l'hospitalisation en soins généraux bénéficie des 2/3 environ. Le troisième tiers se partage entre infrastructure psychiatrique (pour laquelle le Plan hospitalier a introduit la sectorisation), établissements médico-sociaux, établissements médico-éducatifs, écoles d'infirmières et d'autres professions de la santé. Environ 60% des investissements ont été consentis par l'Etat cantonal vaudois, quelque 20% par la Confédération suisse (au titre de l'enseignement universitaire et pour les établissements médico-éducatifs et médico-sociaux), le reste par les autres instances mentionnées ci-dessus.

Consommation hospitalière et médico-sociale

De 1962 à 1972, l'appareil hospitalier a fonctionné d'une manière de plus en plus intensive avec des durées de séjours de plus en plus courtes, qui marque une rupture avec les anciennes infirmeries, et qui a permis de traiter un nombre croissant de malades sans augmenter sensiblement le nombre de journées d'hospitalisation. Ce phénomène a été si prononcé qu'il a entraîné une sous-occupation quasi générale des hôpitaux en soins généraux. Dès 1972, la durée de séjour s'est stabilisée; mais l'évolution démographique et les conditions économiques ont contribué à maintenir cette tendance à la sous-occupation.

Cela montre que l'appareil hospitalier vaudois en soins généraux, entré depuis 1950 dans un processus de transformation (laïcisation du personnel infirmier, extension des assurances, rénovation de l'équipement, etc.), n'a pas encore atteint un équilibre adéquat. Il reste d'ajuster progressivement l'offre à la demande par une redistribution des lits entre services et par un accueil plus large aux cas nécessitant des soins lourds de longue durée. Ceci nécessite la collaboration accrue de l'ensemble des partenaires sanitaires.

Par ailleurs, la demande de lits pour malades chroniques dépendants reste forte (taux moyen d'occupation* à 95%), mais le nombre de demandes insatisfaites a diminué grâce à la mise en service de nouveaux établissements, construits avec l'appui

^{*} dans les établissement médico-sociaux (EMS)

financier des pouvoirs publics. Cependant, le vieillissement de la population engendre de nouveaux besoins par les patients âgés. De plus, pour les vieillards moins dépendants, un effort important reste à faire notamment sur la création d'appartements adaptés à leurs besoins, et sur l'aide et les soins à domicile, faute de quoi les services pour les cas plus sévères risquent d'être rapidement engorgés.

Evolution des coûts hospitaliers de 1962 à 1977

Dans le Canton de Vaud, les coûts hospitaliers en soins généraux représentent en 1977, en francs courants, les 705% de ce qu'ils étaient en 1962. En psychiatrie, la progression pendant la même époque a été de 462%. En <u>francs constants</u>, l'accroissement est respectivement de 400% et de 250%. A ce rythme, dans quelques années, et malgré l'augmentation du pouvoir d'achat, l'équilibre des budgets des collectivités publiques et aussi de ceux des ménages pourrait se rompre sous le poids du poste santé.

Ce phénomène affecte la Suisse entière, et la plupart des pays industrialisés. Au niveau national, les chiffres suivants sont significatifs:

Les dépenses hospitalières, sans le service de la dette, représentent environ la moitié des dépenses de santé qui, ellemêmes, représentaient moins de 3% du produit national brut (PNB) en 1950, 5% en 1970, 7% en 1974. Leur rythme d'accroissement a été une fois et demi à deux fois plus rapide que celui du PNB. Or, parmi les spécialistes d'économie sanitaire, on note un certain consensus selon lequel les dépenses de santé restent supportables et acceptables par la collectivité jusqu'à un seuil d'environ 10% du PNB, au-delà de quoi les répartitions budgétaires générales actuelles devraient être remises en cause. Au rythme actuel d'augmentation des coûts et malgré une certaine stabilisation ces dernières années, ce seuil pourrait être atteint en Suisse dans les dix à quinze ans.

La part de la santé dans le budget ordinaire de l'Etat de Vaud s'est également sensiblement accrue, de 17,5% du budget ordinaire brut en 1963 à 26% en 1977. Avec le budget d'investissement, ces pourcentages passent respectivement à 19% et 31%. Au niveau de la Suisse en général, la part des pouvoirs publics (communes, cantons, Confédération) à la prise en charge des coûts hospitaliers et médico-sociaux s'est également accrue, pour avoisiner 50% en 1977. Pour le poste global de la santé (hospitalisation, activité ambulatoire des médecins, dentistes, chiropraticiens, physiothérapeutes, administration de santé publique, produits pharmaceutiques, etc.) le canton de Vaud a dépensé en 1975 plus d'un milliard de francs, ou un montant de l'ordre de Fr.s. 2000.par habitant. Quelque 50% de ce milliard sont consacrés aux dépenses d'hospitalisation, 30% aux activités ambulatoires, 10% aux produits pharmaceutiques. Les soins à domicile ne représentent même pas 1% du total.

Les raisons de la croissance des coûts hospitaliers et médicosociaux

Les raisons pour lesquelles une communauté accorde de plus en plus d'importance à sa santé sont complexes, et relèvent de facteurs d'ordre économique, social, culturel, moral, politique. Ce phénomène se traduit par une médicalisation croissante de la vie, par un accroissement des coûts, et par une modification de leur structure.

L'analyse économique du 'marché sanitaire' fait apparaître quelques caractéristiques, qui proviennent surtout de la nature des prestations de santé et affectent les rapports entre producteurs (médecins principalement) et consommateurs (les patients). Elles expliquent - en partie - la forte augmentation des coûts:

- au delà de la démarche initiale du patient, la décision de consommer est prise en règle générale par le producteur et non par le consommateur; cette décision porte sur la nature de la consommation (prescription d'un traitement par exemple) et souvent même sur le principe (opportunité de pratiquer telle intervention, etc.);
- Habituellement, la décision de consommer ne comporte plus de véritable sanction économique: le producteur ne connaît souvent pas le prix de la production et le consommateur qui en bénéficie ne le paie pas directement;
- les payeurs (assurances, pouvoirs publics) ne participent pas en règle générale aux décisions qui ordonnent les dépenses;
- les producteurs ne sont guère soumis à concurrence (situation de monopole d'un hôpital dans sa région, d'un médecin dans un hôpital, etc.);

- typiquement, le consommateur n'est pas en mesure de juger de la qualité réelle de ce qu'il consomme, et le payeur de ce qu'il paie;
- la nature des prestations de santé est telle que le besoin en est potentiellement infini. L'offre de prestations exerce une influence marquée sur la demande;
- l'application des règles de la libre entreprise au secteur sanitaire aboutirait, dans l'éventualité de la gestion déficitaire d'un établissement, à sa mise en faillite. Cette procédure est généralement inadaptée à la nature et au rôle des services de santé, et en fait difficilement applicable.

Ces particularités ont pour conséquence que les lois du marché et notamment le prix ne jouent pas le rôle de régulation que l'on peut observer dans d'autres secteurs de l'économie.

En 1962 les salaires représentaient 44% des dépenses en soins généraux. En 1976, ils représentaient quelque 70%, le solde se partageant, à raison de 10% environ pour chaque catégorie, entre le service de la dette, les frais hôteliers, et les frais médicotechniques et pharmaceutiques. C'est donc surtout l'évolution du poste salaire qui explique l'augmentation des coûts. La laïcisation du personnel paramédical (qui comptait encore beaucoup de religieuses jusqu'après la seconde guerre mondiale), la revalorisation indispensable des salaires hospitaliers, plus particulièrement des salaires féminins, et surtout l'augmentation absolue du personnel due entre autres à la diminution du temps de travail et à la complexification des techniques, en sont les causes principales. Ainsi, 31 000 personnes étaient employées dans les hôpitaux suisses en 1950, 70 000 en 1970 et entre 90 000 et 100 000 personnes en 1977.

Dès 1974, les coûts continuent à croître au-delà de la simple indexation mais sans augmentation correspondante ni du nombre de journées ni du nombre de malades traités. Ceci provient du programme de modernisation de l'infrastructure hospitalière entrepris dans le cadre du plan hospitalier, et dans une certaine mesure, de l'autoalimentation des besoins, entretenue par des habitudes héritées d'une époque de forte croissance économique. Certes, certains gains thérapeutiques sont indéniables, la qualité des prestations, le confort des soignés et des soignants s'améliorent. C'est utile sans doute, mais tout est-il indispensable ? Est-ce compatible avec les ressources à disposition ? Surtout est-ce la meilleure manière d'investir pour améliorer l'état de santé de la population ?

Conséquences de la croissance des coûts hospitaliers

Des réponses partielles peuvent être données aux questions soulevées plus haut:

- la croissance actuelle des dépenses de santé sera bientôt, si elle se poursuit, incompatible avec le mode actuel de répartition des ressources dans notre société, et leur croissance se fera au détriment d'autres activités financées par l'Etat;
- l'attribution de ressources croissantes au secteur hospitalier privilégie le développement de 'l'industrie de la santé (ou de la maladie)', qui est devenue la plus grande industrie de services du monde et l'une des principales branches d'activité économique des pays industrialisés;
- 📮 le budget de santé d'une collectivité a désormais des limites. Dès lors, toute dépense supplémentaire consentie dans le secteur hospitalier ne pourra être faite, par exemple, pour la prévention, l'éducation sanitaire ou l'hygiène du milieu. Cette priorité de fait pour une médecine hospitalière de plus en plus technique, qui s'adresse pour beaucoup à des patients dont la maladie a débuté dix ou quinze ans plus tôt, est discutable, d'autant plus qu'elle ne procède pas d'un choix délibéré: la croissance des dépenses hospitalières est aujourd'hui subie par la collectivité et, si elle n'est pas maîtrisée, risque d'imposer sa loi au développement sanitaire. Par ailleurs, il est établi que le rendement thérapeutique marginal de la médecine hospitalière diminue: il faut de plus en plus de ressources pour obtenir un supplément de progrès.

L'état de santé de la population, qui a fait des progrès extraordinaires après la révolution industrielle et dans la première moitié de ce siècle, est aujourd'hui à peu près stationnaire. Dès lors, la maîtrise des coûts n'est pas seulement une exigence économique: c'est aussi une exigence de santé.

L'espoir que l'amélioration des possibilités de traitement entraînerait une diminution marquée de la 'quantité de maladie' dans la collectivité a dû être abandonné devant les faits: le besoin de prestations de santé, au sens large, est dans nos sociétés potentiellement illimité. En l'absence de mécanismes internes efficaces de régulation des coûts, seule l'introduction d'une contrainte budgétaire extérieure peut actuellement limiter la croissance des dépenses hospitalières et enrayer le phénomène d'auto-alimentation des besoins.

Orientations nouvelles proposées, puis adoptées

L'analyse de la situation et les consultations faites auprès des partenaires de l'Etat dans le domaine sanitaire (organisation professionnelle des médecins, associations d'hôpitaux et d'établissements médico-sociaux, caisses-maladie) ont permis d'identifier les problèmes majeurs. Les mesures suivantes ont été approuvées par le Grand Conseil vaudois (Parlement cantonal) en décembre 1978, dans une nouvelle Loi sur la planification et le financement des établissements sanitaires d'intérêt public:

- a) définition d'une politique d'investissement plus sélective en matière de construction et d'équipement des établissements sanitaires d'intérêt public (devant l'urgence de la situation, le Conseil d'Etat a à cet effet, et pour la première fois, adopté un programme d'investissement échelonné sur dix ans, qui fixe des priorités entre les établissements sanitaires concernés);
- b) renforcement des dispositions légales de façon à permettre à l'Etat et à ses partenaires d'intervenir efficacement dans le domaine de la planification et du financement des établissements sanitaires d'intérêt public;
- c) modification du système de financement pour assurer une meilleure maîtrise des coûts, plus particulièrement des dépenses hospitalières;
- d) aménagement des structures et des mécanismes qui assurent la gestion, la planification et le développement du réseau des établissements sanitaires d'intérêt public;

- e) définition plus précise de la mission des établissements sanitaires, notamment des hôpitaux en soins généraux;
- f) mise en place d'un système d'information statistique susceptible de fournir les données d'activités, de coûts et d'épidémiologie nécessaires à l'élaboration progressive d'une véritable politique de santé.

Un nouveau système de financement

Compte tenu des positions exprimées par les partenaires sanitaires et des contraintes qui sont les leurs, un nouveau système de financement a été mis sur pied, qui obéit aux principes suivants:

1) Investissement:

Pour permettre aux partenaires d'assumer mieux les tâches de planification et pour éliminer les facteurs les plus importants des différences budgétaires entre établissements de même catégorie, l'Etat cantonal prend en charge les investissements sanitaires (bâtiments et équipement), selon un programme d'investissements sur dix à quinze ans élaboré avec les partenaires. Les fondations ou associations restent propriétaires de leurs établissements.

2) Exploitation:

Pour préserver le principe d'une gestion décentralisée des établissements et maintenir la responsabilité de leur comité (privé) tout en donnant à l'Etat la possibilité d'agir sur le coût global de l'hospitalisation, l'Etat définie, en collaboration avec ses partenaires, la <u>mission de chaque établissement</u> et <u>l'enveloppe budgétaire correspondante</u>. Autrement, les établissements sont libres de s'organiser comme ils l'entendent (sous réserve d'exigences légales existantes).

Pratiquement, l'action de l'Etat se manifeste de la manière suivante:

chaque année, l'Etat et ses partenaires définissent une enveloppe budgétaire annuelle globale (investissement et exploitation) pour l'hospitalisation dans les établissements d'intérêt public du canton, en fonction des ressources à disposition, des résultats des exercices précédents, des facteurs reconnus de modification des coûts et d'une répartition optimale des ressources entre les différents secteurs sanitaires;

 l'enveloppe budgétaire globale d'exploitation est répartie entre les établissements en fonction de leur capacité de prestation (équipement + personnel), déterminée par leur mission respective. Le budget de chaque établissement est subdivisé en <u>frais</u> variables et <u>frais fixes</u>, ce dernier (80 à 85% du budget total) étant garanti à l'établissement quelle que soit l'activité réalisée en cours d'exercice.*

L'enveloppe allouée pour les frais variables est corrigée en fin d'exercice, en fonction de l'activité effectivement réalisée par l'hôpital (nombre de journées) et de facteurs de pondération rendant compte du poids économique de ces journées. Les facteurs à retenir sont par exemple: nombre de cas traités, nombre d'entrées en urgence, âge moyen des patients, etc.;

- l'accord sur l'enveloppe budgétaire (après négociation éventuelle), est garantie pour une période d'une année sous réserve de la procédure de correction pour la couverture des frais variables;
- la prise en charge de l'enveloppe budgétaire du secteur conventionné est assurée par l'Etat et les caissesmaladie qui négocient entre eux leur part respective;
- l'établissement est responsable du respect de l'enveloppe budgétaire initiale allouée. Tout bénéfice peut être utilisé librement pour autant que ceci ne modifie pas la mission définie. Tout déficit est la seule responsabilité de l'établissement.

^{*} Pour des raisons pratiques tenant au mode de fonctionnement des caisses-maladie, la notion de prix de journée est maintenue mais seulement comme 'unité de monnaie'; elle reste présente dans la forme des échanges financiers entre payeurs et prestataires de soins, mais n'a plus le rôle de <u>déterminant des</u> recettes des hôpitaux.

Les structures de planification et de gestion sanitaire

Le but général de la réforme est une répartition plus fonctionnelle des responsabilités pour la planification et la gestion des établissements sanitaires. Cela consiste d'une part à grouper au niveau cantonal, à l'aide d'une instance qui associe l'Etat et ses partenaires, les compétences nécessaires à la définition de la politique en matière de planification et de financement: d'autre part, à décentraliser le pouvoir de décision au niveau de zones sanitaires pour ce qui concerne la coordination des établissements sanitaires régionaux.

La réforme s'articule autour de la création d'une Commission cantonale de planification et de financement des établissements sanitaires (la Commission de planification) et de commissions correspondantes dans les zones sanitaires (huit pour l'ensemble du canton), crées par le Plan hospitalier de 1966, qui n'avaient pas trouvé jusqu'ici la vocation d'unités opérationnelles qu'elles devaient avoir. La mission générale de ces instances est:

- la Commission de planification est l'unique instance associant l'Etat et ses partenaires en matière de gestion, de planification, de financement des établissements sanitaires. Présidée par le Chef du Département de l'intérieur et de la santé publique, elle se donne les moyens qu'elle juge utiles pour préparer ses décisions. Elle assiste à titre consultatif le Conseil d'Etat et le Chef du Département de l'intérieur et de la santé publique pour les décisions qui relèvent de leurs compétences respectives.
- La création de huit commissions sanitaires de zone vise la décentralisation des tâches d'animation et de coordination face à la nécessaire centralisation des compétences en matière de planification et de financement. La composition de la Commission de zone (représentants des établissements, du corps médical, des autorités locales et régionales notamment) doit lui permettre d'exprimer les préoccupations sanitaires particulières de la population concernée et d'assurer une meilleure intégration entre les activités hospitalières et ambulatoires, et entre les pratiques préventives et curatives. Elle assiste la Commission cantonale dans l'étude des développements médicosanitaires au niveau de la zone.
Définition de la mission des établissements sanitaires

Le Plan hospitalier de 1966 instituait pour la première fois une division des tâches hospitalières: quatre types d'hôpitaux en soins généraux, associés à quatre unités géographiques différentes, étaient définis. La mise à jour récente du Plan a confirmé trois de ces quatre échelons et en a supprimé un:

- le <u>Centre hospitalier universitaire</u> vaudois (CHUV) comprend tous les services et spécialités nécessaires pour fournir les prestations hautement spécialisées pour le canton de Vaud (et, en partie, de certains cantons voisins); il est chargé en outre de l'enseignement et de la recherche médicale;
- l'hôpital de secteur, d'une capacité de 400-500 lits, comprenant les services spécialisés de base (médecine, chirurgie générale, obstétrique-gynécologie, pédiatrie, urgences) et plus d'autres spécialités complémentaires, ne correspondant pas à un besoin clair, est maintenant abandonné, (aucun hôpital de secteur n'a été construit);
- <u>l'hôpital de zone</u> comprend les services de base déjà mentionnés. Sa capacité est de 100 - 250 lits;
- <u>l'hôpital régional</u> n'est pas structuré en services;
 il assure une permanence mais ne comprend pas de service d'urgences impliquant la présence 24 h. sur 24 d'une équipe médico-chirurgicale pluri-disciplinaire. Sa capacité est de moins de 100 lits

Cette classification répond au souci de centraliser la pratique hospitalière spécialisée et de décentraliser la pratique courante. Il était implicitement admis que la mission, la capacité médico-technique, fussent définies par le biais du service: l'absence ou la présence de tel service impliquait la possibilité ou non d'accomplir telle ou telle prestation.

La croissance du coût d'exploitation d'un hôpital est largement déterminée par la nature et le niveau technique des prestations qu'il fournit. Si la situation actuelle n'est pas alarmante, il ne faut pas minimiser les risques d'onéreux suréquipements, et chevauchements à une époque de forte augmentation de la densité médicale et de rapide progression de la technologie, d'ou le besoin des contrôles affinés et l'accent sur la définition de la mission des hôpitaux en tenant compte:

- de la qualité requise des soins;
- de la sécurité des patients;
- du coût des prestations fournies;
- de la proximité des autres établissements sanitaires;
- de la situation de depart.

De plus, les options suivantes sont retenues:

- la définition de la mission des hôpitaux doit se faire en principe non par une liste de prestations autorisées ou non autorisées à chaque niveau, mais par le canal des moyens (personnel, équipements, etc.) mis à disposition pour accomplir ces prestations, par service ou centre de responsabilité;
- la manière d'utiliser les moyens disponibles relève de la direction des hôpitaux et du collège des médecins, qui apprécient, en fonction du risque et du gain thérapeutique, ce que l'environnement technique et humain permet d'accomplir;
- la définition de la mission des hôpitaux constitue un cadre général, interprété, si nécessaire, en fonction des spécificités locales;
- Sont assurés:
 - 👻 libre choix de l'établissement par le patient,
 - respect du secret professionnel,
 - liberté thérapeutique et responsabilité individuelle des médecins;
- le contrôle de qualité des soins médicaux sera encouragé dans tous les domaines possibles; il sera entrepris par les médecins eux-mêmes.

282

OPEN DISCUSSION

van Balen: soutenant l'argument du Professeur Monekosso, souligne l'importance d'assurer des soins gratuits au niveau périphérique des services de santé dans les pays en voie de développement. Il cite l'exemple d'une zone rurale d'Afrique centrale comptant une population d'à peu près 550 000 habitants, où le budget gouvernemental permet d'affecter seulement un infirmier praticien pour 10 000 habitants à la périphérie, et deux à trois infirmiers praticiens pour 10 000 habitants dans les hôpitaux généraux. Le financement disponible pour les médicaments est limité à \$ 0,10-0,20 par habitant. Pour pallier ce manque de moyens, un système de paiement par épisode de maladie ou de risque (plutôt que par acte de service), a été instauré. Ce paiement a été fixé à \$ 0,25-0,35 pour les soins généraux et à \$ 0,50 pour la protection maternelle et infantile. Cette somme couvre des soins primaires standardisés, assurés par trois infirmiers et une personne non qualifiée pour 10 000 habitants. L'hospitalisation est couverte par la solidarité nationale. L'apport de ces paiements, qui est d'à peu près \$ 0,50 par habitant, représente en effet quatre fois plus que le financement assuré par le gouvernement. En plus, ce système, qui existe maintenant depuis cinq ans, comprend un élément d'autogestion. Les habitants décident eux-mêmes du niveau des paiements par épisode de maladie et de la disposition du surplus de recettes qui dépasse les dépenses dans 40% des cas. La comptabilité du système peut être examinée par les participants, qui sont à même d'apprécier directement le coût des services demandés et les problèmes posés par ceux-ci. Ce projet démontre qu'un élément d'autofinancement et d'autogestion peut apporter une amélioration importante dans les services de santé périphériques des pays en voie de développement.

Wynen: rappelle qu'en 1975 l'Assemblée générale de l'Association médicale mondiale a discuté la question de l'économie et de la politique de santé. Le 'Follow-up Committee on Development and Allocation of Medical Care Resources', établi par cette Assemblée, s'est réuni à Tokyo en août 1979. Il espère que l'Association médicale mondiale et le CIOMS pourront collaborer à la recherche de conclusions communes dans ce domaine délicat et attire l'attention sur les conséquences éthiques des succès remportés par la médecine dans la lutte contre les maladies. Il n'est pas formellement démontré que ce soit un avantage pour le

patrimoine génétique humain, et il n'est donc pas certain que l'ensemble des activités médicales débouche sur des résultats strictement intéressants pour la société. Cela provient peutêtre du fait que le médecin est orienté vers la protection de l'individu plutôt que vers la défense de la collectivité. Le citoyen bien portant cotise d'une manière ou d'une autre aux frais de soins des malades, et quand il tombe malade lui-même, le flux s'inverse et il recoit à son tour l'aide de ses concitoyens. Dans la mesure où la collectivité essaie de limiter les dépenses impliquées par les besoins du malade, il y a une divergence fondamentale entre le malade et la collectivité. Cette réaction s'observe dans tous les pays avant une médecine sophistiquée, où la planification est devenue de plus en plus négative, visant à supprimer ou à limiter des lits d'hôpitaux, l'équipement, et les frais en général, plutôt qu'à assurer les ressources nécessaires à une médecine moderne et sophistiquée. Il s'ensuit des situations paradoxales, par exemple un dépistage coûteux des insuffisances rénales parallèlement à une limitation des ressources thérapeutiques. Cela oblige le médecin à choisir les malades qui seront soignés et ceux qui seront exclus, d'où un problème éthique important pour le médecin, qui doit protéger à la fois le malade contre sa maladie et les droits du malade contre la collectivité.

Les discussions de l'Association médicale mondiale ont montré qu'il n'était pas possible de tirer des conclusions valables si l'on ne sépare pas les problèmes des pays en voie de développement de ceux des pays développés. En particulier, il a paru inutile de former des médecins pour une médecine sophistiquée et ensuite de leur demander d'appliquer une médecine rudimentaire qu'ils n'ont pas apprise ni choisie. C'est comme si on utilisait des ingénieurs aéronautiques sophistiqués pour construire des brouettes, faute de moyens pour construire des avions.

Mabeck: was reassured to find that in these discussions with economists, the doctors, often accused of being more interested in money than in their patients, clearly knew too little about economics. As a general practitioner, he reemphasized the clinician's duty to do the best possible for his patient, but pointed out that this does not mean that all new diagnostic procedures and therapies have to be introduced, nor that they necessarily represent progress over what is already available. He agreed that research and development, to produce new methods and therapies, are complex and expensive, but

OPEN DISCUSSION

distinguished between them and market research, whose results are also often presented scientifically. He also pointed to the paradoxical situation in which political decision-makers felt they could not control the allocation and use of resources in the health sector, because of the medical professions clinical independence, but simultaneously responded to interest group and media pressure to introduce and expand certain services. The expansion of haemodialysis and renal transplantation in Denmark are good examples of this. To resolve this difficulty, the medical professions, through bodies like the Central Medical Board and the Medical Research Board in Denmark, have been increasingly called upon to advise politicians on policy decisions, and this has led to the abandonment of several unjustified proposals, such as the development of a major liver transplantation project, and the introduction of several screening programmes.

Tankari: estime que les propositions concernant l'amélioration des services de santé dans les pays en voie de développement n'ont pas un caractère suffisamment global. Dans la politique des médicaments, par exemple, il ne suffit pas de briser certains monopoles pharmaceutiques. Les pays en voie de développement devraient développer à un niveau régional leurs propres moyens pour fabriquer des médicaments. Il constate aussi que l'approche des soins de santé primaires, qui apparaît comme la meilleure solution aux problèmes des pays en voie de développement pour l'instant, n'est pas forcément la solution idéale. Il cite les problèmes posés par les secouristes et les matrones formés pour donner des soins primaires dans son pays, le Niger. Ces personnes travaillent bénévolement, mais la population est obligée d'acheter les médicaments, souvent chez ces mêmes secouristes. Par contre, dans les dispensaires des régions plus peuplées, les soins sont gratuits. Cela pose le problème de l'inégalité entre les populations des zones urbaines et celles des zones rurales. En plus, ces catégories de personnel s'occupent principalement de soins curatifs, tandis qu'il serait plus avantageux d'orienter les interventions vers la prévention et l'éducation, sur lesquelles il faudrait aussi axer la formation des formateurs. Dans ce contexte il est également important de former suffisamment de planificateurs et de gestionnaires pour assurer un développement équilibré et bien orienté des services.

accepted Professor Roemer's analysis of Demenv: a broad historical correspondence between the way in which health care is financed and the organizational system by which it is delivered, but as an economist, he saw little analytical usefulness in this correspondence. For example, personal financing of automobile purchases in no way implies that cars should be produced by master mechanics in their own garages, and the same argument applies to personal financing of health care. In a market system the particular modes of delivery of health care are determined by the interaction between supply and demand, and notably by consumer preferences, technology, and costs. While sources of finance may influence what care is delivered and who receives it, the often involved biases and inequities of private financing in fact arise from unequal income distribution, rather than inefficient market Leaving external considerations aside, it can be provision. shown by fairly simple economic arguments that it is more efficient to redistribute income, if the existing distribution is considered unsatisfactory, and then to leave individuals to decide for themselves how they wish to spend that income. Political decisions about the provision and distribution of free services in kind are likely to be as inefficient or indeed considerably more inefficient than those of private markets. Whereas in private markets individual purchasing power determines who gets what, in political markets the allocation depends upon political power. In developing countries this has led to heavy concentrations of health resources upon services and technologies to serve the needs of urban industrial elites, which was entirely predictable, given the concentration of political power and the absence of political checks and balances. If this argument is accepted, the premature transfer of collective models for health service provision from developed to developping countries would be a glaring example of inappropriate health technology. The implication is not that government should stay out of the health sector, but that it should concentrate on those areas where it has a special role to play, notably those where major external benefits arise from the provision of particular health services, so that the total public benefit far exceeds the sum of private benefits. Applying such a criterion, government intervention would be justified for antimalaria programmes or birth control services, but not for hearing aids or false teeth. Such a criterion would concentrate government action in those fields where the influence of political bias would be least harmful, and it is arguable that, with fewer things to do, the government would do them better. The remaining health policy task under such an approach would then be to

establish an appropriate institutional framework to encourage private initiatives to supply health services in response to demand as development proceeds.

<u>Chernichovsky:</u> agreed with Dr Demeny's argument and pointed out that systems which did not ration through price did so by other means, such as waiting times, and that in the future it may be necessary to put a price on the consumer or the patient's time in calculating the costs of health care.

FOURTH SESSION

IMPLICATIONS AND REQUIREMENTS FOR CHANGE

Moderator: B. Abel-Smith

SUMMARY OF CONCLUSIONS FROM THE PREVIOUS THREE SESSIONS

Dr Gellhorn, summarizing the first session, picked out the various means suggested to improve value for money in health care. They 2) costincluded: 1) restriction of governmental expenditures; sharing and greater participation in decision-making by patients; 3) limitation of health service supply, notably of staff such as doctors and nurses, including possible limits on the numbers trained; 4) expansion of primary care, either by physicians or by less costly health personnel; 5) change in emphasis from hospital to community care; 6) limitation of expenditure on certain types of services, e.g., diagnostic X-rays, especially new costly techniques, like computerized axial-tomogrophy, and laboratory procedures; 7) more control and evaluation of the value of new techniques in diagnosis and treatment before their general introduction; 8) research into specific areas of clinical management, such as the prescribing practices of physicians; 9) more emphasis on improvements in socioeconomic conditions, rather than on health services, since it has been abundantly demonstrated that standard of living and life-style have a major impact on morbidity and mortality; 10) more emphasis on prevention.

He also recalled the Conference's attention to the point emphasized by several people that, unless health professionals and the public became more aware of the economic aspects of health services, they would face increasing external controls on their freedom to provide and use services. It was also noted that health problems had to be seen in context and, for many countries, or even whole regions, community exploration of health-related issues and appropriate community development are of fundamental importance.

<u>Professor Adadevoh</u> summarized the main points of each paper in the second session and the related discussion. Dr Chernichovsky's paper emphasized the overwhelming predominance of staff costs in health service budgets, and the crucial need to relate objectives and priorities to the available resources, particularly in trained manpower. This requirement extends to the introduction of new technology, which often requires highly trained staff. Careful attention must therefore be given to incentives affecting the use and substitution of different kinds of staff, and to pay and conditions of work designed to attract them and retain them in the service, instead of responding to high turnover and complete withdrawal from the labour force by recruiting and training replacements, as for example in the case of married women nurses. SUMMARY OF CONCLUSIONS FROM THE PREVIOUS THREE SESSIONS

During the discussion, it was suggested that economists using cost-benefit analysis should take part in the establishment of priorities and that the consumer should have a greater say. It was also emphasized that developing countries should be particularly careful to ensure that the running costs and manpower requirements of expensive facilities and equipment can be covered, even when they are offered free through foreign aid; otherwise, programmes may be badly distorted or investments poorly used.

Dr Kleczkowski's paper emphasized the need for a doctrine to unify the technical imperative to adopt the latest technology regardless of cost and the now urgent need to ensure economic efficiency and effectiveness. He suggested that the concept of appropriate technology could provide such a doctrine, and that rationing through science might be the most acceptable approach in seeking allocative and operational efficiency in the health services. This would require more systematic technical and economic evaluation and the dissemination of information on new technology.

In the discussion, it was pointed out that the European Office of the World Health Organization now includes health economics among its priorities in health service research. While patients and physicians would certainly not wish to see a diminution in clinical freedom, it was suggested that new clinical techniques should perhaps be subjected to the same testing procedures as new drugs, and that physicians would be better able to plan and evaluate their activities if they had regular data on mortality and morbidity in their community. This kind of approach implies physician accountability, and it was felt that physicians would modify their practices appropriately if provided with suitable and reliable information on the costs, consumption, and effectiveness of services. Finally, it was emphasized that indigenous technologies could also be 'appropriate', if they satisfied scientific criteria of safety and efficacy, and, equally, that traditional providers could be used to deliver modern technology.

Mr. Teeling-Smith in his paper reminded the conference that almost all the pharmaceutical innovations of the last thirty years came from the western, research-based pharmaceutical industry, and that they have improved well-being, decreased mortality, and avoided costs, both to health services and the economy. The extremely costly research and development involved in these advances evidently have to be reflected in prices, but he argued that effective

292

price competition limits the scope for overpricing and monopoly profits. Indeed, the proportion of health service expenditure going on pharmaceutical products has been steadily declining in Europe and the USA. The situation of developing countries is obviously different, since they are unable to meet the high costs of such research and development, but fortunately many of the drugs most important for them are first-generation, patent-expired drugs. In addition, the pharmaceutical industry is now offering drugs to the poorest countries on special terms.

In discussion, it was pointed out that drugs did not always produce net savings as in the treatment of tuberculosis and mental illness. In many instances, they provided new intervention possibilities and therefore higher expenditure. As possibilities have progressed faster than resources, so the need arises to decide whether the effects justify the costs, and to select priorities that will maximize the benefit to society from the resources committed. It was also noted that independent improvements in health and non-compliance with drug treatment often complicated evaluations of the true effects of drugs on the health of a population. New Norwegian legislation was described that limits reimbursement for drugs to the price of the cheapest generics. However, it was argued that, far from producing savings, administration and increased service use caused by problems of bio-equivalence would incur substantial In addition, the Norwegian Ministry of Health extra costs. proposes to prohibit any new additions to the reimbursement list in 1980. It was argued that the potential effects of such measures need to be far more rigorously researched before their introduction and carefully monitored during their application.

In discussing the problems of developing countries it was noted that drug prices were often higher there than in developed countries, for various reasons, but that the differential was not always justifiable. On the other hand, many countries included inappropriate, expensive, sophisticated drugs in their essential drug lists when they lacked the diagnostic and therapeutic skills and facilities to use them properly. It was stressed that drugs are interdependent with other health service inputs, and that, where overall health expenditures are low, even modest spending on drugs may amount to a large proportion of the health budget. Quality and appropriate use were also considered of fundamental importance, but, unlike data on prices, data on these aspects were poor or non-existent. One study of twelve Indian primary health centres found that 98% of the drugs used were substandard.

294 SUMMARY OF CONCLUSIONS FROM THE PREVIOUS THREE SESSIONS

Dr Flahault's paper detailed the steps involved in adapting education and training to meet the priority target of 'Health for all by the year 2000'. He particularly emphasized the importance of clearly identifying needs and priorities, of specifying the tasks and manpower required to meet them, and of adapting education and training to meet these specifications in a flexible manner, including willingness to modify traditional programmes and where necessary to create new types of staff. Training should above all be relevant, and staff should be well motivated.

These points were endorsed during the discussion, but it appeared that even countries like India, which have developed a large health service infrastructure over the last thirty years, have difficulty in formulating a comprehensive integrated health policy. In addition to clear policies and adequate resources, particularly of trained manpower, there must be willingness by health professionals to introduce appropriate methods for the extension of rural health services, and, most important, to delegate responsibility to rural health workers and motivate them to work effectively. The International Council of Nurses has already responded to this need for self-appraisal by the health professions with an evaluation of the role of nurses in primary care. Other professions should be encouraged to do likewise.

<u>Professor Aujaleu</u>, introducing the summary of the third session, pointed out the interesting general trend for completely different systems to move slowly towards a common organizational and financial pattern, with more socialization and planning in the western European and American systems, and more liberal arrangements, including limited private practice, in the planned systems, notably those of eastern Europe

<u>Mr Griffiths</u> opened his summary of the third session by elaborating on the general tendency towards convergence between planned controlled systems and market-oriented systems. In addition to the general trends indicated by both Professor Roemer and Professor Kohn in their papers, it was clear from the discussion that market-oriented health systems needed some kind of planning framework, control mechanisms, and information systems. Equally, evidence from eastern Europe, the United Kingdom, and Sweden demonstrated the need for flexibility and incentives to be built into planned health systems. At this stage, the exact balance of the different systems which will emerge in each country remains to be seen. Nevertheless, experiences of change in Europe and

SUMMARY OF CONCLUSIONS FROM THE PREVIOUS THREE SESSIONS

North America showed clearly that, whatever health systems and controls are introduced, they must take account of the predominant values of the country concerned. In particular, gross attempts to transfer successful structures and mechanisms from one country to another can lead to reactions and errors quite out of proportion to the often minor adaptations needed to fit them to the recipient country's values and institutions.

Two recurring themes in the discussion highlighted important areas for research and development. The first was the need for more 'micro'-level research into the use and functioning of health services in order to evaluate the national and international differences that have been revealed but not explained by 'macro'level research. This would clearly require close collaboration between the health professions, epidemiologists, health economists, administrators, financing agencies, and the public. Given its objectives and membership, CIOMS could clearly do much to foster such collaboration.

The second theme was the need for more and better information on morbidity, on manpower, technology, and other resources, and on service use, costs, and outcomes. It was noted that, even at the national level, important data are often crude or unavailable. Furthermore, even when the basic information is available, it is quite commonly not integrated; inputs and costs are not related to objectives and results, making rational management and evaluation difficult. In developing countries the problem is even more severe, because both resources and information are lacking. Very large components of health expenditure, notably private spending by patients and by a variety of organizations other than the ministry of health, are unknown and often amount to double or more what appears in the official budget. Such expenditure has enormous potential if it can be harnessed effectively.

It was also noted that it is not enough to establish data collection systems to amass statistics which are then left untouched by human thought. It is necessary to devise proper information systems to feed the information back to decisionmakers at all levels in an appropriate and timely way. Several suggestions and examples of successful developments were offered in the discussions, such as monitoring of profiles of clinical activity, and daily or weekly feedback to doctors of the costs generated by their clinical decisions. Good information is crucial to good decision-making, and certainly to improvements in the efficiency and effectiveness of health services. <u>Professor Abel-Smith</u> (Moderator) summarized the salient points of the conference as a basis for identifying priorities for research and development. He noted that the subject of the conference was not new, and the discussions inevitably overlapped with those at earlier meetings. However, he drew particular attention to the wide agreement achieved implicitly and explicitly in this conference, despite the wide range of professions and organizations represented, often about issues that have long been highly controversial.

First, no-one tried to argue that the community should simply find the means to provide whatever resources and services the health professions feel are needed. The economic problem was recognized and accepted for both developed and developing countries. Secondly, no-one sought to justify the enormous inequities in the distribution of resources in developing countries, or those which still persist in developed countries. Until quite recently such inequities were still defended as a necessary and desirable concentration of resources on the urban industrial areas of high economic growth, the best medium- and long-term strategy, even for the rural population. The principle of equity is recognized in the objective 'Health for all by the year 2000'. Thirdly, though there were differences of emphasis, on nutrition, water supply, education, family planning, and so on, the importance of socioeconomic development for health was widely acknowledged. Fourthly, no-one denied the important waste of resources in both developed and developing countries; the tendency was rather to offer explanations such as poor management leading to misallocation of resources, fraud, and lack of proper evaluation of new technology, and legal considerations, including the fear of malpractice actions, leading to wasteful defensive medicine. Finally, no-one argued that it would be dangerous or unacceptable to seek improvements in cost-effectiveness by delegating work to less trained staff.

Professor Abel-Smith considered the acceptance of these five points an important development. They were reinforced by a polite challenge from some speakers from developing countries that the developed countries would be more credible if they applied to themselves the measures they advocated for the developing countries. For example, have the developed countries done enough to obtain community participation in their own health services ? Apart from some schemes employing feldschers, physician 'extenders', and nurse practitioners, and delegation by default, is enough effort really being made to delegate work and to apply the results of important research studies ? What have developed countries done to reduce waste and needless, ineffective care ? Why have there not been more controlled trials and other evaluations to avoid the introduction of ineffective procedures which then spread and make new demands on the strained resources of the developing countries ? Why have developed countries not found organizational and financial systems to ensure cost-effective provision of health care to meet all their main health needs within a reasonable time at the minimum cost compatible with acceptable quality of care ? Where is the model that a developing country with resources should copy ? Scattered but damaging evidence was quoted by several speakers on the ill effects of fee-for-service systems. What exactly are the effects of different payment systems on the way health services are provided and used ? How can their undesirable features, such as the encouragement of needless expensive services, be removed ? The first priority area for research therefore appears to be the options for organizing and financing health services.

The second priority that emerged for research was the provision of better information, nationally and internationally, about the costs, inputs, and outputs of health services. Is it acceptable, for example, that four major studies of health service financing in developed countries, each study purporting to do the best job possible, should emerge with different answers ? Should the United Nations Statistical Office or some other agency develop guidelines and improve definitions for national accounting so that reliable and compatible data can at least be obtained on health sector expenditure ?

These kinds of health-financing surveys or accounts are not ends in themselves. Their use must justify the effort involved. In Botswana and some other countries such studies were reported to be useful. If local expenditures could be related to local morbidity and mortality data (which data are themselves usually unavailable) so that the health professionals in the field could plan their work and have a feedback of results relative to objectives and costs, might this be enough ? Or is it useful to be able to compare the experiences of different areas and countries with similar levels of development and similar health problems in order to identify and disseminate the most successful intervention strategies ? Such fundamental issues require careful practical investigation. Another issue in this area is the extent of the costs and benefits to be included and their measurement. Some participants emphasized the need for greater sophistication; a wider definition of costs, to include those borne by the patient and his family and the 'cost' of waiting for services; and a fuller quantification of benefits, exemplified by efforts to measure the value of human life. Professor Abel-Smith was hesitant about giving high priority to more sophisticated cost-benefit measurements unless they were demonstrably acceptable, not only to economists and the health profession, but also to the community.

The third priority, which obviously reflects a strong need, was the systematic evaluation of the effectiveness of health care activities. Much of this work is purely medical, but it also involves economic evaluation in order to relate effectiveness to costs and to choose between different strategies of care for given conditions, (e.g., home versus hospital care, surgical versus non-surgical treatment, varying lengths of stay, etc.).

Fourthly, more research is needed on the factors in socioeconomic development that improve or damage health, and the different weights to attach to them. There has been detailed research on specific factors like family planning, but much less on the contribution of socioeconomic development to health. Countries, like Japan, whose health and socioeconomic profiles have changed rapidly from developing to developed configurations, offer a valuable opportunity for studying the specific contributions of socioeconomic development to health improvements.

Fifthly, Professor Abel-Smith asked whether it would be useful to know more of the successes and failures of different systems of financing health services in developing countries, and particularly of mixed participation financing. The successful experience (described in the discussion) in an area of Niger and other examples described in various WHO publications are thought-provoking, but it is far from clear why some succeeed while others collapse.

Having outlined these five priority areas for research and development from the papers and discussions of the conference, Professor Abel-Smith picked out four key issues in considering how they might be followed up. The first issue is the extent to which health economics, the behavioural sciences, and

PRIORITIES FOR RESEARCH AND FOLLOW-UP

community development are really considered critical for health. If they are critical, he suggested that CIOMS might discuss with WHO the tiny proportion of its staff who come from these disciplines, and the level at which they are employed in the organization.

The second issue is what the health professions wish and are able to do themselves in excercising their responsibility for the economic consequences of their decisions, and what help they want and require from others. So far, most efforts to monitor profiles of clinical activity, or to feed back cost data about clinical decisions, have been initiated by administrators, finance ministries, and social security organizations and imposed on the professions rather than being initiated and developed internally by them. The very minimum requirement here is that doctors and others should know the cost of the services they provide or authorize for their patients. For example, the price of each pathological test could easily be shown next to it on the authorization form so that the doctor sees it as he ticks the request. The question here is what is the role of organizations like the World Medical Association, and of national and international specialty organizations, in seeing how such information could be provided to professionals, perhaps confidentially, so that they can compare the different ways they use resources, where appropriate.

The third issue was raised by the nurses, who are reconsidering their roles and presumably the legal restrictions defining those roles. Should the other professions also be reviewing their roles, considering that they are perhaps the best judges of what tasks they might delegate and to whom, and what legal changes might be needed to permit such delegation ? Here again the various professional associations should take the lead.

A fourth and related issue is the extent to which the professions are prepared to restrict their own numbers in training, in order to match the changing requirements implied by greater delegation and avoid overproduction. Such restrictions have been introduced in many countries, but not in all.

The fifth and last issue is that of training. What should be taught to whom and by whom ? How much importance should be placed on teaching about the role of socioeconomic development and community participation, or the role of the doctor as a

OPEN DISCUSSION

teacher, manager, leader, etc., and at what stage of training should these subjects be introduced, especially if joint training of doctors, administrators, and health economists is envisaged ? If these are postgraduate subjects, should there be undergraduate preparation and are there any pilot schemes from which experience can be collected ? In developing countries is there a case for more training for health economists and administrators not qualified in medicine ? All these are issues that crucially affect the practical pursuit of the research priorities identified by the conference.

OPEN DISCUSSION

Gish: stressed that, despite certain broad philosophical similarities between market economies, and sometimes non-market ones too, the immediate research needs of developing countries are distinct from those of developed areas. The major issue in developed countries is cost containment, and who will pay for that containment. In the USA, public institutions are threatened by the channelling of public sector insurance funds into private institutions. The danger is that, in the process of cost containment, the poor will have to pay to resolve a crisis created by the better-off.

In the developing countries, Dr. Gish considered, the main research issue is the use of very limited resources to achieve health for all by the year 2000. The first level of research concerns the major determinants of health, which, of course, lie outside the health services. He suggested, for example, that a more equitable distribution of land and income, leading to better nutrition, would improve health in developing countries more than anything else. This is now more than ever the case, with the breakdown of the extended family and with urban migration. The second level of research is that of improved sanitation and related vector control. The personal health services, including preventive and curative services, represent the third level of research. Here the priority is clearly greater access to care within the constraints of very low spending, which means research to find more cost-effective ways to deliver health care.

Dr Gish therefore supported the proposals for more research into the socioeconomic determinants of health, and into different organizational and financing systems, and he added two

300

OPEN DISCUSSION

specific suggestions of his own: first, research to determine the appropriate relationships between integrated and vertical health service approaches, based on epidemiological, environmental, and resource and managerial considerations; secondly, research into more effective drug prescribing, and into investment in pharmaceutical research and development. In making this last suggestion, he noted that, for every dollar spent on research and development, two-and-a-half are spent on marketing. Finally, he suggested that CIOMS might consider identifying participants interested in particular themes and then maintain a contact network between them, as a basis for strengthening collaboration on particular follow-up activities.

Adadevoh: noted that in focusing on the scientific approach to problems, the discussions had tended to ignore the political aspects of science. He felt that scientists were perhaps too apologetic about changes implied by their solutions to problems, by comparison with politicians. For example, a politician building a road or restructuring an urban area will readily require people to move to new homes, but the health professions are reluctant to suggest that populations be relocated away from Simulium fly areas to prevent onchocerciasis. Similarly, he felt scientists and the health professions did not present their views actively enough on political decisions affecting health. For example, huge investments have been made in irrigation and hydro-electric schemes without regard to the likely - often major - health hazards, such as schistosomiasis. and without provision for concomitant preventive measures.

Logan: confirmed that the International Council of Nurses was reviewing both the delegation of tasks related to nursing and the legislation affecting such delegation. It is also considering management training for nurses who will supervise staff performing delegated tasks. Secondly, she advocated that, whatever research was undertaken, it should, wherever possible, be interdisciplinary, involving all the health professionals concerned with decision-making and policy-making.

Hardie: recalled his previous proposals about developing local information systems and management training, and in addition noted that there had been many interesting references to practical uses of health economics. He suggested that a useful follow-up would be to organize periodic meetings, where health economists, epidemiologists, and operational researchers, on one hand, and doctors, nurses, and administrators, on the other hand, could meet to hear and discuss short presentations on both successful and unsuccessful developments in health economics. Such meetings would help to disseminate information, and increase understanding and confidence between researchers and health professionals. He offered the collaboration of his own organization, the International Hospital Federation, in organizing such meetings and in ensuring participation by health service managers, matched by a corresponding group of health service researchers.

pointed out that many of the types of Cumper: research mentioned merely involved application to the health sector of well-established economic and management approaches developed in other sectors. Perhaps for this reason, they often involved areas peripheral to medicine, like stock control or appointment scheduling. He conceded that such work could improve health service efficiency and that it could be exploited much more extensively without confronting basic value issues. Nevertheless, he felt that ultimately these issues must be tackled, so that problems such as equity and health service functioning could be more clearly defined, within a frame of reference common to economists and health professionals. As an example, he pointed out that doctors, among other things, take unpleasant decisions for patients. Many schemes for improving health service efficiency would push such decisions back to the patient, who might not want to take them, preferring, for example, to give up an extra year of life rather than decide to consume less cholesterol.

<u>Peretz:</u> emphasized that each country had to decide its own health priorities, but regretted that there had been too little time to examine some of the differences, such as those mentioned in Dr Sahni's discussion paper, which showed that, in Sri Lanka, health expenditure as a percentage of GNP was twice as high as in India. Concerning pharmaceuticals, he suggested that preventive medicines, sera, and vaccines deserved more attention, and that the provision of cheap but low-quality drugs in developing countries seriously damaged the credibility not only of drugs and of the pharmaceutical industry, but of the health service as a whole.

OPEN DISCUSSION

Fernandez Perez de Talens: agreeing with some earlier speakers, proposed two related goals for research and development: more effective control mechanisms in all planning and management activities, and better information, particularly through the development of indicators of service provision, efficiency, and effectiveness, including both quantitative and qualitative indicators of unmet need and patient satisfaction.

appuya la nécessité de faire davantage Rumeau-Rouquette: de recherches concernant l'influence des facteurs socio-culturels sur la santé. Elle rappela une enquête coût-efficacité en France qui démontra le besoin de renforcer la prévention chez les femmes les moins favorisées pendant la grossesse. Des nouvelles mesures d'intervention ont abouti à une amélioration des résultats pour ces femmes, mais l'amélioration était encore plus grande chez les femmes les plus favorisées, qui ont mieux su profiter du programme. Le résultat global était donc une augmentation de la différence entre les classes sociales favorisées et non favorisées. Cet exemple démontre amplement l'importance de comprendre des influences éthniques et religieuses sur le comportement, et les habitudes sociales très profondes, qui sont encore très mal connues, et qui peuvent conduire à l'échec, ou même au rejet total des mesures d'intervention.

<u>Gomaa</u>: recognized the importance of the research areas already proposed and reminded the conference that health economics research is a part of health services research, which as a whole tends to be subordinated to biomedical research. He proposed that the follow-up of the recommendations should be formulated as a programme of action whose progress could be monitored and disseminated on a country and regional basis.

<u>Rapoport:</u> proposed that the development of predictive models of health care should be part of the research effort, along the lines of the work already in progress at the International Institute for Applied Systems Analysis, Laxenburg, Secondly, he disagreed that there were any entrepreneurial or capitalist tendencies in the health systems of socialist countries, though they offer material and non-material incentives to the health professionals. The conference should specifically recommend that international organizations follow rules of conduct in keeping with major international health goals, such as that of health for all by the year 2000.

commented that more extensive formal Kleczkowski: evaluation procedures for new technology were certainly needed. However, most technologies have at least some degree of usefulness and would therefore be accepted eventually, even if with reservations. A more meaningful basis for evaluation would be, first, to examine existing technologies for their effectiveness and usefulness, as is presently being done in surgery and radio-Secondly, particular health problems could be examined to logy. identify the leading causes and the key areas for intervention, e.g., for cardiovascular diseases the key interventions would focus on preventive measures and intensive care. Thirdly, it would be desirable to examine the appropriate level for delivering different health services, and particularly the care that can be appropriately delivered at the primary care level. Dr Kleczkowski also emphasized the need for research and training in comprehensive, practical, problem-solving approaches that would be effective in socioeconomic, as well as medical, terms. Such approaches would be equally applicable in examining the impact of socioeconomic development on health.

Abelin: drew attention to the problem of allocating resources in areas not easily amenable to incentives. He cited the example of prepaid group medicine as an incentive to the provision of preventive personal health services. Incentives also pose a problem in research and development. They exist in fields like drugs and equipment, but not in areas like health promotion or support services such as health information systems. He therefore proposed that incentives and financing mechanisms for research and development themselves should be examined and improved.

<u>Violaki:</u> proposed that, in addition to tackling the specific research priorities identified during the conference, a coordinated effort should be made by the various international organizations involved to collect and disseminate information about existing health economics and health policy studies. She also suggested that an agreed international terminology would considerably facilitate communication in this field.

Fiori: soutena les propositions de Mme. Logan pour la revue du rôle des infirmières, et pour une approche inter-disciplinaire dans la recherche en services de santé. Elle rappela à la conference que l'économie, comme la médecine est au service de l'homme, et non pas l'inverse, et recommenda qu'il fallait s'en souvenir dans l'élaboration des programmes de recherche.

felt that the conference had really been Logan: about value for money in health care. He noted that incentives and better organization to reduce costs and waste had received more attention than incentives to improve effectiveness. This was perhaps understandable, given the largely 'macro' level of the discussion, but he emphasized that decisions to consume resources were made at the clinical level. The 10-15% of health expenditure going on drugs should not overshadow the 80% spent on other services, notably the 40-50% related to decisions about hospitalization. He suggested that industrial organizational models were being applied to a situation in which the key decisions were in fact clinical ones, which meant that research must be far more 'micro'-oriented, and interdisciplinary. The information requirements for such research go beyond counting various categories of staff and resources, to the examination of their actual functions, which differ considerably within Europe alone. The key issue is not cost-containment, holding costs down within fixed patterns of service, but examining why costs are rising and finding more effective and efficient patterns of service.

Sintonen: relating the trend towards greater equity to the large proportion of women among health service staff, suggested that equal employment conditions and pay for women should receive special attention in any analysis of health service financing.

Sahni: observed that there is a growing trend away from single-sector planning and evaluation, with their inherent weaknesses, towards a multisectorial approach. Several recent Indian projects are based on integrated development, covering agriculture, nutrition, education, and so on, as well as health services. Such an approach goes beyond the narrow health needs of the individual to the wider health and welfare needs of the family.

<u>Deliège:</u> remarqua qu'il y avait eu des ambiguités dans les discussions sur le rapport entre l'offre et la demande pour les services de santé. Elle proposa que ces ambiguités provenaient du fait qu'il faut différencier entre la demande initiale, et la demande dérivée pour les services de santé. La demande initiale provient de l'initiative du patient, qui cherche une consultation, et apparemment, n'a pas de lien avec l'augmentation de l'offre. Par contre, la demande dérivée provient du médecin, qui, après la première consultation, décidera les services dont son patient aura besoin, et c'est à ce niveau qu'on trouve un rapport positif entre l'offre et la demande.

SUMMARY OF CONCLUSIONS

In outlining the research priorities identified during the conference, Professor B. Abel-Smith noted that despite the very varied backgrounds of the participants, there was a remarkable consensus on virtually all the basic propositions, objectives, and priorities discussed, many of which were still controversial until recently. There was agreement on: the fundamental importance of socioeconomic factors in determining health status; the need to eliminate waste and improve cost-effectiveness, including more downward delegation of tasks; and the principle of equal distribution of services in populations. However, before moving on to specific research priorities, he cautioned that there were important unanswered questions about why we have not been more active in applying what we know to solve the problems and meet the objectives on which we seem to agree. The priorities identified for research and follow-up may be grouped into six areas:

- Research into the effects of financing and remuneration systems, (particularly the effects of fee-for-service payment in developed countries, and the functioning and problems of mixed participatory systems in developing countries).
- Improvement of the economic aspects of the data base, and of information systems, (including improved internationally standardized accounting systems, and collaboration with the health professions to improve effective feedback of suitable financial data to them for local planning and operational decisions).
- Cost-effectiveness analysis of health care procedures, new technology, and strategies of provision, ranging from medical controlled trials of different procedures, to cost-effectiveness comparisons of different places of care and lengths of stay.

- 4. Analysis with and by the health professions for better matching of skills to tasks, to achieve a more rational planned supply of various categories of staff, and a more appropriate delegation of tasks between them.
- 5. Research into the contribution and potential of various elements of socioeconomic development in improving health, e.g., analysis of changes in countries who's health profiles have progressed rapidly from developing to more developed status.
- 6. Analysis of training programmes to support more economically and medically rational health service provision, (including a critical review of the roles and potential of the various health professions as teachers, managers, community leaders etc., and a flexible approach to joint or integrated training bringing several professional groups together).

Résumé des conclusions:

En résumant les priorités de recherches esquissées pendant la conférence, le professeur B. Abel-Smith a constaté qu'en dépit des origines très différentes des participants, un accord remarquable se dégageait sur pratiquement tous les objectifs. priorités de base et propositions examinés, dont beaucoup faisaient encore récemment l'objet de controverses. L'accord s'est fait sur les points suivants: sur l'importance fondamentale des facteurs socio-économiques pour déterminer la situation sanitaire; sur la nécessité d'éliminer les gaspillages et d'améliorer les rapports coût-efficacité, y compris par une plus grande délégation des tâches dans la hiérarchie: et sur le principe d'une répartition égale des services au sein des populations. Toutefois, avant de passer à des priorités de recherches spécifiques, le professeur Abel-Smith a attiré l'attention sur le fait que certaines questions importantes restaient sans réponse, et notamment celle-ci: pourquoi n'avonsnous pas cherché plus activement à appliquer ce que nous savons pour résoudre les problèmes et atteindre les objectifs sur lesquels nous semblons être d'accord ? Les priorités fixées pour la recherche et la suite des opérations peuvent être regroupées en six secteurs:

- Les effets des systèmes de financement et de rémunération (notamment les effets du système de paiement à l'acte dans les pays développés, ainsi que le fonctionnement et les problèmes des systèmes de participation mixtes dans les pays en développement).
- 2. L'amélioration des aspects économiques des bases de données et des systèmes d'information (notamment par des systèmes améliorés de comptabilité normalisée au niveau international, et par la collaboration avec les professions de santé leur assurant rétroinformation effective de données financières appropriées aux décisions opérationnelles et à la planification locale).
- 3. Les analyses coût-efficacité des méthodes de soins de santé, des technologies nouvelles et des stratégies de mise à disposition, allant des essais cliniques contrôlés de procédures différentes aux comparaisons de coût-efficacité des lieux de soins et des durées de séjour.
- 4. L'analyse avec et par les professionnels de la santé en vue d'une congruence entre aptitudes et tâches, pour parvenir à une mise à disposition planifiée plus rationnelle des diverses catégories de personnel et à une délégation de tâches plus appropriées.
- 5. La contribution et le potentiel des divers éléments de développement socio-économiques pour l'amélioration de la santé, par exemple, l'analyse des changements dans les pays dont les profils sanitaires ont évolué rapidement, d'un niveau de développement à un autre niveau.
- 6. L'analyse de programmes de formation destinés à favoriser la mise en oeuvre de services de santé plus économiques et médicalement rationnels (notamment par l'examen critique des rôles et du potentiel des diverses représentants de professions médico-sanitaires, tels qu'enseignants, administrateurs, notabilités locales, etc. et par l'approche souple d'une formation commune ou intégrée réunissant plusieurs groupes professionnels).

<u>Gellhorn:</u> closing the proceedings, said that CIOMS had already decided that, as a first step in following up the conference, edited summaries of the papers and research priorities would be sent to each member oganization, with the recommendation that their implications for the organization should be discussed at its next meeting. Each international organization will also be asked to disseminate the summaries to its national members for similar action at national level. The full proceedings of the conference will also be widely distributed.

On behalf of CIOMS and the conference participants, Dr Gellhorn thanked the speakers, discussants, and moderators for their varied and positive contributions. He expressed the conference's thanks to the interpreters, and to Mrs Staub, Mrs Dübendorfer and Mrs Carballo of the CIOMS secretariat for their very efficient support. Finally, he thanked and congratulated the organizing committee, Mr Griffiths, the programme secretary, Dr Bankowski, Executive Secretary of CIOMS, and Dr. Kleczkowski and Dr Mach of WHO. LIST OF PARTICIPANTS/LISTE DES PARTICIPANTS

Chairman/Président	
Prof. A. GELLHORN	Immediate Past President, Council for International Organizations of Medical Sciences, USA
Secretary/Secrétaire	
Dr Z. BANKOWSKI	Executive Secretary, Council for International Organizations of Medical Sciences, Switzerland
Speakers/Orateurs	
Prof. B. ABEL-SMITH	London School of Economics, UK
Prof. B. K. ADADEVOH	University of Lagos, Nigeria
Prof. E. AUJALEU	Institut national de la Santé et de la Recherche médicale, France
Dr D. CHERNICHOVSKY	Ben-Gurion University of the Negev, Israel
Prof. A. COCHRANE	formerly Medical Research Council, UK
Dr D. FLAHAULT	Health Manpower Development, World Health Organization
Dr R. GOMAA	Ministry of Health, Egypt
Mr A. GRIFFITHS	Sandoz Institute for Health and Socio- Economic Studies, Switzerland
Dr T. HODGSON	National Center for Health Statistics, USA
Dr T. K. JACOBSEN	Association of Norwegian Representa- tives of Foreign Pharmaceutical Manufacturers, Norway
Dr E. KALIMO	Research Institute for Social Security, Finland
Dr B. KLECZKOWSKI	Resource Group, World Health Organization

.

Prof. R. KOHN	London School of Hygiene and Tropical Medicine, UK
Dr T. A. LAMEO	Deputy Director-General, World Health Organization
Prof. A. LAURENT	Université libre de Bruxelles, Belgium
Dr E. P. MACH	Resource Group, World Health Organization
Dr J. F. MARTIN	Service de la santé publique du Canton de Vaud, Switzerland
Prof. G. L. MONEKOSSO	Centre universitaire des Sciences de la Santé, United Republic of Cameroon
Prof. C. K. PARK	Korea Development Institute, Republic of Korea
Prof. G. POPOV	Faculty of Economics, University of Moscow, USSR
Prof. M. I. ROEMER	School of Public Health, University of California, USA
Dr C. RUMEAU-ROUQUETTE	Institut national de la Santé et de la Recherche médicale, France
Dr F. RUTTEN	Department of Long-Term Planning, Ministry of Health and Environmental Protection, Netherlands
Prof. A. K. SAHNI	Indian Institute of Management, India
Mrs S. SANDIER	CREDOC, Division d'Economie médicale, France
Dr D. B. SEBINA	Ministry of Health, Botswana
Mr G. TEELING-SMITH	Office of Health Economics, UX
Prof. P. TSCHOPP	Département d'Economie politique, Université de Genève, Switzerland

312

REPRESENTATIVES OF CIOMS MEMBER ORGANIZATIONS/ REPRESENTANTS DES ORGANISATIONS MEMBRES DU CIOMS

International Members/Membres internationaux

World Federation of ANESTHESIOLOGISTS	Prof. M. GEMPERLE
International Society of AUDIOLOGY	Prof. E. R. KÖNIG
International DENTAL Federation	Dr J. AHLBERG
International DIABETES Federation	Dr B. RILLIET
International Federation of Societies for ELECTROENCEPHALOGRAPHY AND CLINICAL NEUROPHYSIOLOGY	Dr A. BEAUMANOIR
World Organization of GASTROENTEROLOGY	Prof. F. VILARDELL
International Society of HISTORY OF MEDICINE	Dr R. JORIS
International Society of INTERNAL MEDICINE	Dr P. FREI
International LEPROSY Association	Dr S. G. BROWNE
International MEDICAL INFORMATICS Association	Dr A. FERNANDEZ PEREZ DE TALENS
World MEDICAL Association	Dr A. WYNEN
International Federation of OPHTHALMOLOGICAL Societies	Prof. B. STREIFF
International PAEDIATRIC Association	Prof. N. HALLMAN
World Federation of Associations of PEDIATRIC SURGEONS	Prof. M. C. BETTEX
World PSYCHIATRIC Association	Dr D. C. SAMITCA
International Society of PSYCHOSOMATIC OBSTETRICS AND GYNECOLOGY	Dr M. DE SENARCLENS
International REHABILITATION MEDICINE Association	Dr W. M. ZINN Dr C. EVANS Dr H. J. HACHEN
International College of SURGEONS	Dr J. D. BUFFAT

International Congresses of TROPICAL Prof. J. PAPAVASSILIOU MEDICINE AND MALARIA

National Members/Membres nationaux

Federal Council of Medicine, BRAZIL Dr M. BELCHIOR Union of Scientific Medical Societies Prof. G. GALABOV of BULGARIA CZECHOSLOVAK Medical Society, Prof. R. T. NIEDERLAND J. E. Purkyne Council for Coordination of Medical Prof. S. M. RAPOPORT and Scientific Societies of the GERMAN DEMOCRATIC REPUBLIC Federation of HUNGARIAN Medical Prof. K. MAGYAR Societies Science Council of JAPAN Prof. S. YAMAGATA National Academy of Medicine, MEXICO Dr J. CORVERA-BERNARDELLI Royal NETHERLANDS Academy of Arts Prof. J. H. P. JONXIS and Sciences Dr C. M. VOERMANS-NELEMAN Prof. H. K. IBBERTSON The Medical Research Council of NEW ZEALAND National Research Council of the Dr J. L. PALARCA PHILIPPINES Prof. W. J. RUDOWSKI POLISH Academy of Sciences SOUTH AFRICAN Medical Research Dr P. VAN HEERDEN Council SWEDISH Medical Research Council Prof. B. HOKFELT Prof. H. DANIELSSON SWISS Academy of Medical Sciences Prof. R. J. MACH

314

REPRESENTATIVES OF THE UNITED NATIONS AND ITS SPECIALIZED AGENCIES/REPRESENTANTS DES NATIONS UNIES ET DE LEURS INSTITUTIONS SPECIALISEES

Dr N	BAILEY	Health Statistical Methodology, World Health Organization
Dr E.	BECHER	WHO World Bank Cooperative Programme in Environmental Health, World Health Organization
Dr C.	CHOLLAT-TRAQUET	Managerial Process for Programme Development, World Health Organization
Dr J.	COPPLESTONE	Pesticides Development and Safe Use, World Health Organization
Mr S.	S. FLUSS	Health Legislation, World Health Organization
Mr R.	A. FOULKES	Health Legislation, World Health Organization
Dr T.	FULOP	Health Manpower Development, World Health Organization
Mr A.	J. KÜHNER	Health Statistics, World Health Organization
Dr P.	E. MANDL	United Nations Children's Fund (UNICEF)
Dr C.	MONTOYA-AGUILAR	Strengthening of Health Services, World Health Organization
Dr A.	NOGUER	Malaria Action Programme, World Health Organization
Dr I.	POUSTOVOI	Noncommunicable Diseases, World Health Organization
Dr P.	ROSENFIELD	Research and Training in Tropical Diseases, World Health Organization
Dr H.	SCHMIDTKUNZ	Staff Development and Training, World Health Organization
Dr T.	STRASSER	Cardiovascular Diseases, World Health Organization

Dr J.	TAMASY	Dissemination of Statistical Information, World Health Organization
Dr G.	TAMBOURI	Social Security Department, International Labour Organisation (ILO)
Dr A.	TEMOCHE	International Classification of Diseases, World Health Organization
Dr M.	E. F. TORFS	Strengthening of Health Services, World Health Organization
Dr H.	ZÖLLNER	Regional Office for Europe, World Health Organization

REPRESENTATIVES OF OTHER INTERNATIONAL AND NATIONAL ORGANIZATIONS OR INSTITUTIONS/REPRESENTANTS DES AUTRES ORGANISATIONS OU INSTITUTIONS INTERNATIONALES ET NATIONALES

Dr F.	ABEL	Medicus Mundi Internationalis, Spain
Prof.	T. ABELIN	Department of Social and Preventive Medicine, University of Berne, Switzerland
Dr T.	AL-ABDULJADER	Manpower Department, Ministry of Public Health, Kuwait
Dr I.	M. ALI	Department of Finance and Personnel Affairs, Ministry of Health, Bahrain
Dr M.	ALIROU	Direction des Etablissements des Soins, Ministère de la Santé publique, Niger
Dr H.	BAYER	C. H. Boehringer Sohn, Federal Republic of Germany
Dr J.	DE BEER	Department of Health, South Africa
Dr T.	B. BINNS	Department of Pharmacology and Therapeutics, London Hospital Medical College, UK
Dr L.	• BONNOT	Délégation générale à la Recherche scientifique et technique, France

316		
Dr A. BRANDT	F. Hoffmann-La Roche & Co. Ltd, Switzerland	
Dr R. BRUPPACHER	Swiss National Research Programme	
Dr D. BURLEY	Ciba-Geigy Pharmaceuticals Division, UK	
Dr C. D. BURRELL	Sandoz Foundation, USA	
Dr J. BUTLER	Health Services Research Unit, University of Kent, UK	
Dr G. CURTI	Sandoz Italia, Italy	
Dr A. CAMPOS	Ministry of Social Affairs, Portugal	
Dr E. B. E. CHEW	Development Section, Ministry of Health, Singapore	
Dr G. E. CUMPER	Ross Institute, London School of Hygiene and Tropical Medicine, UK	
Prof. D. DELIÈGE-ROTT	University of Louvain, Belgium	
Dr G. DELTOUR	Roussel UCLAF, France	
Dr P. DEMENY	The Population Council, USA	
Dr R. DRUKKER	Nefarma, The Netherlands	
Dr A. ELIA	Merck Sharp & Dohme International, New Jersey, USA	
Dr A. FAZARINC	Republiski komite za zdravstveno in socialno varstvo, Yugoslavia	
Dr C. FEDELE	Former Chief External Relations, WHO, Geneva	
Dr L. FIORI	Comité international catholique des Infirmières et des Assistantes médico-sociales, Holy See	
Mme S. FONTERME	Laboratoire de Médecine légale et Toxicologie médicale, France	
Dr A. FRIS	Swiss Society of Chemical Industry	
Dr H. FRISCHAUF	Austrian Academy of Sciences	
Dr A. GARCIA BOU	Smith Kline & French Laboratories, Spain	
Dr J. GERAUD	Mission Permanente du Saint Siège	
		317
-------	--------------	---
Dr V.	GHETTI	Fondazione Smith Kline, Italy
Dr S.	DE GILIO	World Federation of Occupational Therapists, New Zealand
Dr O.	GISH	School of Public Health, University of Michigan, USA
Dr B.	W. GLASS	Sandoz Ltd, Switzerland
Dr B.	GUNTERT	Institute of Insurance Economics, St Gall Graduate School, Switzerland
Dr H.	HALBACH	CIOMS Consultant, Federal Republic of Germany
Mr M.	HARDIE	International Hospital Federation, UK
Dr H.	HAUSER	Institute of Public Finance and Fiscal Law, St Gall Graduate School, Switzerland
Dr L.	HEIDET	International Cystic Fibrosis Association, Switzerland
Dr E.	HERMANN	Fédération internationale pharmaceutique, Denmark
Dr W.	HERRMANN	Fédération internationale de Gynécologie et Obstétrique, Switzerland
Mr A.	HERZOG	Interpharma, Switzerland
Dr D.	HOFOSS	Unit for Health Services Research, Norwegian Research Council for Sciences and the Humanities
Dr V.	S. JARAVAZA	Ministry of Health, Zimbabwe, Rhodesia
Prof.	O. JEANNERET	Institut de Médecine sociale et préventive, Université de Genève, Switzerland
Dr B.	JOHANNESEN	Federation of Norwegian Pharmaceutical Manufacturers
Dr B.	JÜNSSON	Swedish Institute for Health Economics
Dr J.	M. KASONDE	Ministry of Health, Zambia

Dr M.	KLINGLER	F. Hoffmann-La Roche & Co. Ltd, Switzerland
Prof.	O. DE LA GRANDVILLE	Université de Genève, Switzerland
Dr H.	LAHON	Pfizer Europe, Belgium
Dr M.	LANGER	Sandoz Ltd, Switzerland
Dr H.	LEDERMANN	Boehringer Mannheim GmbH., Federal Republic of Germany
Dr R.	LEVIN	Janssen Pharmaceutical Ltd, UK
Dr R.	LOGAN	Department of Community Medicine, London School of Hygiene and Tropical Medicine, UK
Dr W.	LOGAN	International Council of Nurses, Switzerland
Dr C.	E. MABECK	Danish Counsel for Scientific Policy and Planning
Dr A.	MANTAS	Central Commission for the Financing of Health Services, Portugal
Prof.	S. MARKETOS	Ministry of Social Services, Greece
Dr A.	MILLS	Ross Institute, London School of Hygiene and Tropical Medicine, UK
Dr M.	MILLS	Ministry of Health, Botswana
Prof.	J. MORICHAU-BEAUCHANT	Institut d'Etude du Développement économique et social, Université de Paris, France
Dr J.	MOUCHET	Office de la Recherche scientifique et technique outre-mer, France
Prof.	A. F. MULLER	Département de Médecine, Hòpital cantonal de Genève, Switzerland
Dr I.	NYGREN	Ministry of Health and Social Affairs, Sweden
Dr M.	S. PERETZ	International Federation of Pharmaceutical Manufacturers Associations, Switzerland
Dr J.	S. B. PREECE	Ministry of Health, Zimbabwe, Rhodesia

Dr N.	PRESCOTT	University of Oxford, UK
Dr V.	PUDDU	Past Vice-President of CIOMS
Mr R.	RIGONI	Sandoz Institute for Health and Socio-Economic Studies, Switzerland
Prof.	G. RIOTTON	Centre de Cytologie et de Dépistage du Cancer, Geneva, Switzerland
Dr M.	ROBIN	Laboratoires Sandoz, France
Dr J.	L. ROBLES BUENO	Smith Kline & French, Spain
Dr P.	A. RUHR	Bundesverband der Pharmazeutischen Industrie e.V., Federal Republic of Germany
Dr R.	RUSSBACH	Comité International de la Croix- Rouge, Switzerland
Dr C.	SCHULTZ	F. Hoffmann-La Roche & Co. Ltd, Switzerland
Dr P.	SELBY	Sandoz Institute for Health and Socio-Economic Studies, Switzerland
Dr M.	SCHNEIDER	Internationales Institut für Empirische Sozialökonomie, Federal Republic of Germany
Dr P.	SENANAYAKE	International Planned Parenthood Federation, UK
Prof.	S. SINKKONEN	Finnish Medical Research Council
Dr A.	SPEETJENS	Medicus Mundi Internationalis, Federal Republic of Germany
Dr K.	TANKARI	Ministère de la Santé publique et des Affaires sociales, Niger
Dr H.	C. R. VAN BALEN	Institute of Tropical Medicine, Belgium
Dr N.	VAN BELLE	Janssen Pharmaceutica NV., Belgium
Dr M.	VIOLAKI	Ministry of Social Services and International Affairs, Greece
Dr J. MIJNSB	F. O. VAN DER RUGGE	Montedison Farmaceutica Benelux, Belgium

Dr J.	VAN LANGENDONCK	Institute of Social Law, Belgium
Prof.	J. VENULET	Ciba-Geigy, Switzerland
Dr C.	M. VOERMANS-NELEMAN	Health Council of the Netherlands, Netherlands
Dr R.	WEEDEN	Department of Health and Social Security, UK
Dr F.	WEISS	Farmitalia Carlo Erba S.p.A., Italy
Dr B.	WENGER	Ciba-Geigy, Switzerland
Dr R.	WOLF	Austrian Scientific Research Fund
Dr H.	ZIELINSKI	League of Red Cross Societies, Switzerland
Dr P.	ZWEIFEL	Institut für Empirische Wirtschaftsforschung, University of Zurich, Switzerland

CIOMS SECRETARIAT

Mrs E. STAUB

320

- Mrs C. DUBENDORFER
- Mrs K. CARBALLO

WHO publications may be obtained, direct or through booksellers, from:

LUXEMBOURG	Librairie du Centre, 49 bd Royal, LUXEMBOURG
MALAWI	Malawi Book Service, P.O. Box 30044, Chichiti, BLANTYRE 3
MALAYSIA	The WHO Programme Coordinator, Room 1004, Fitzpatrick Building, Jalan Raja Chulan, KUALA LUMPUR 05-02 — Jubilee (Book) Store Ltd, 97 Jalan Tuanku Abdul Rahman, P.O. Box 629, KUALA LUMPUR 01-08 — Parry's Book Center, K. L. Hilton Hotel, Jln. Treacher, P.O. Box 960, KUALA LUMPUR
MEXICO	La Prensa Médica Mexicana, Ediciones Científicas, Paseo de las Facultades 26, Apt. Postal 20-413, MEXICO CITY 20, D.F.
MONGOLIA	see India, WHO Regional Office
MOROCCO	Editions La Porte, 281 avenue Mohammed V, RABAT
MOZAMBIQUE	INLD, Caixa Postal 4030, MAPUTO
NEPAL	see India, WHO Regional Office
NETHERLANDS	Medical Books Europe BV, Noorderwal 38, 7241 BL LOCHEM
NEW ZEALAND	Government Printing Office, Mulgrave Street, Private Bag, WELLINGTON 1. Government Bookshops at: Rutland Street, P.O. 5344, AUCKLAND; 130 Oxford Terrace, P.O. Box 1721, CHRISTCHURCH; Alma Street, P.O. Box 857, HAMILTON; Princes Street, P.O. Box 1104, DUNEDIN — R. Hill & Son Ltd, Ideal House, Cnr Gillies Avenue & Eden Street, Newmarket, AUCKLAND 1
NIGERIA	University Bookshop Nigeria Ltd, University of Ibadan, IBADAN — G. O. Odatuwa Publishers & Booksellers Co., 9 Benin Road, Okirigwe Junction, SAPELE, BENDEL STATE
NORWAY	J. G. Tanum A/S, P.O. Box 1177 Sentrum, Oslo 1
PAKISTAN	Mirza Book Agency, 65 Shahrah-E-Quaid-E-Azam, P.O. Box 729, LAHORE 3
PAPUA NEW GUINEA	The WHO Programme Coordinator, P.O. Box 5896, Вококо
PHILIPPINES	World Health Organization, Regional Office for the Western Pacific, P.O. Box 2932, MANILA — The Modern Book Company Inc., P.O. Box 632, 926 Rizal Avenue, MANILA
POLAND	Składnica Księgarska, ul Mazowiecka 9, 00052 WARSAW (except periodicals) — BKWZ Ruch, ul Wronia 23, 00840 WARSAW (periodicals only)
PORTUGAL	Livraria Rodrigues, 186 Rua do Ouro, LISBON 2
SIERRA LEONE	Njala University College Bookshop (University of Sierra Leone), Private Mail Bag, FREETOWN
SINGAPORE	The WHO Programme Coordinator, 144 Moulmein Road, G.P.O. Box 3457, SINGAPORE 1 — Select Books (Pte) Ltd, 215 Tanglin Shopping Centre, 2/F, 19 Tanglin Road, SINGAPORE 10
SOUTH AFRICA	Van Schaik's Bookstore (Pty) Ltd, P.O. Box 724, 268 Church Street, PRETORIA 0001
SPAIN	Comercial Atheneum S.A., Consejo de Ciento 130-136, BARCELONA 15; General Moscardó 29, MADRID 20 — Libreria Díaz de Santos, Lagasca 95 y Maldonado 6, MADRID 6; Balmes 417 y 419, BARCELONA 22
SRI LANKA	see India, WHO Regional Office
SWEDEN	Aktiebolaget C.E. Fritzes Kungl. Hovbokhandel, Regeringsgatan 12, 10327 STOCKHOLM
SWITZERLAND	Medizinischer Verlag Hans Huber, Länggass Strasse 76, 3012 BERNE 9
SYRIAN ARAB REPUBLIC	M. Farras Kekhia, P.O. Box No. 5221, Aleppo
THAILAND	see India, WHO Regional Office
TUNISIA	Société Tunisienne de Diffusion, 5 avenue de Carthage, TUNIS
TURKEY	Haset Kitapevi, 469 Istiklal Caddesi, Beyoglu, ISTANBUL
UNITED KINGDOM	H.M. Stationery Office: 49 High Holborn, LONDON WC1V 6HB; 13a Castle Street, EDINBURGH EH2 3AR; 41 The Hayes, CARDIFF CF1 1JW; 80 Chichester Street, BELFAST BT1 4JY; Brazennose Street, MAN- CHESTER M60 8AS; 258 Broad Street, BIRMINGHAM B1 2HE; Southey House, Wine Street, BRISTOL BS1 2BO, All mail orders should be sent to P.O. Box 569, LONDON SE1 9NH
UNITED STATES OF AMERICA	Single and bulk copies of individual publications (not subscriptions): WHO Publications Centre USA, 49 Sheridan Avenue, ALBANY, N.Y. 12210. Subscriptions: Subscription orders, accompanied by check made out to the Chemical Bank, New York, Account World Health Organization, should be sent to the World Health Organization, P.O. Box 5284, Church Street Station, New York, N.Y. 10249; Correspondence con- cerning subscriptions should be addressed to the World Health Organization, Distribution and Sales, 1211 GENEVA 27, Switzerland. Publications are also available from the United Nations Bookshop, New YORK, N.Y. 10017 (retail only)
USSR	For readers in the USSR requiring Russian editions: Komsomolskij prospekt 18, Medicinskaja Kniga, Moscow – For readers outside the USSR requiring Russian editions: Kuzneckij most 18, Meždunarodnaja Kniga, Moscow G-200
VENEZUELA	Editorial Interamericana de Venezuela C.A., Apartado 50.785, CARACAS 105 — Libreria del Este, Apartado 60.337, CARACAS 106 — Libreria Médica Paris, Apartado 60.681, CARACAS 106
YUGOSLAVIA	Jugoslovenska Knjiga, Terazije 27/II, 11000 BELGRADE
ZAIRE	Librairie universitaire, avenue de la Paix Nº 167, B.P. 1682, KINSHASA I

Special terms for developing countries are obtainable on application to the WHO Programme Coordinators or WHO Regional Offices listed above or to the World Health Organization, Distribution and Sales Service, 1211 Geneva 27, Switzerland. Orders from countries where sales agents have not yet been appointed may also be sent to the Geneva address, but must be paid for in pounds sterling, US dollars, or Swiss francs.

Price: S.Fr. 20.-

Prices are subject to change without notice.