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APPROPRIATE TECHNOLOGY IN HEALTH CARE - FUTURE PROSPECTS

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Introduction

Within the constitution of the World Health Organization (WHO), it is stated that the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being, without distinction of race, religion, political belief, economic or social condition. To promote this objective, this specialized agency of the United Nations has focused on activities leading to the Goal of "Health For All by the Year 2000" as agreed upon by the Member States. Thus people everywhere should have access to health services which will enable them to lead socially and economically productive lives by the end of this century.

What Does "Health For All" Mean?

"Health For All by the Year 2000" does not mean that by then disease and disability will no longer exist. Nor does it mean that doctors and nurses will be taking care of everybody. What it does mean is that health resources will be evenly distributed, that essential health care will be available to everyone, with full community participation. It means that health begins at home, in schools, and in factories. It also implies an amelioration in the prevention of diseases and in the alleviation of unavoidable diseases and disability.

Starting at the Primary Health Care Level

The 1978 Alma Ata Declaration proclaims Primary Health Care as the key to attaining these Goals. Primary Health Care should be based on practical, scientifically sound, and socially acceptable methods and technology, and should be made accessible to all individuals and families in the community. In order to ascertain continual and affordable services, community participation is a necessary part of Primary Health Care.

Primary Health Care occurs at the initial point of contact between the individual and the national health system, as close as possible to the individual's home and work place. It is the first element in a continuing health care process, and it forms an integral part of the country's health system.

What is the Role of MCH?

Countries need to reinforce their health systems by establishing an infrastructure of health manpower. As a service-orientated component of the national health care system, MCH forms an important element of Primary Health Care.

By definition, the role of MCH is to reduce maternal, perinatal, and child mortality and morbidity. One of the most important means of doing so is through the development of methods and guidelines for the selection, adaptation, and implementation of existing technologies according to the health needs, resources, and lifestyles of developing countries.

Looking at Appropriate Technology

Over the past two decades, rapid progress has been made in the development of sophisticated medical equipment or gadgetery and their applications for diagnostic or therapeutic procedures. Unfortunately, these modern medical techniques often impose a severe strain on the health service resources of even the most prosperous nations and, therefore, some new techniques are available to only very limited section of the population. In addition, there is increasing concern over the long-term cost implications of such techniques. For the decision-makers, the inescapable but agonizing choice lies between allocating resources to provide these techniques for the benefit of a small section of the population or using the available resources in other ways that seek to benefit all the people.

What is the effect on Developing Countries?

The choice of medical techniques in developing countries has implications both for the pattern and nature of health services as well as for present and future costs. Advanced (and expensive) medical techniques tend to be located in hospitals situated in the largest urban areas, thus adding to the resources going to the urban rather than rural areas. Advanced medical techniques may aggravate rural-urban migration and heighten the social divisions that exist.

Not only may such techniques promote urban bias, they also may add to what may be called foreign bias¹. Most advanced techniques are largely dependent on imported equipment and on skills that either have to be learned abroad or practised by expatriates. The question of whether such foreign bias in health services is desirable is coming under close scrutiny in many parts of the world.

Taking a Specific Example

Pichaud undertook a study based on well-defined criteria to examine a set of eight techniques, half diagnostic and half therapeutic. All required specific machinery and equipment, but also required skilled personnel. The techniques selected were:

1. Ultrasonic fetal examination.
2. Fiberoptic endoscopy.
3. Cardiac catheterization.
4. Computerized axial tomography (EMI Scanner).
5. Renal dialysis.
6. Cobalt isotopes for radiotherapy.
7. Open heart surgery.
8. Laser beam therapy.

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¹ Pichaud, D. International Journal of Health Services, Vol.9, No.4, 1979.

The countries in the study had to fulfil two prerequisites to be selected: first, the 1973 population was over 1 million and, second, the 1973 level of income as measured by the gross national product (GNP) per capita was less than US \$1000.

One of the major findings of this study was that countries with small populations, low GNP, and low GNP per capita possessed a substantial number of these sophisticated techniques. However, this information gave no real indication as to how widely the technique was available to the population. Availability entails coverage, accessibility, and utilization--all of which pose problems in measuring. Utilization depends not only on the techniques having been introduced, but also in the continual effective use of these techniques.

What is happening in Reality?

There is much anecdotal evidence that, in many countries where advanced gadgetery has been introduced, the equipment is not in regular use due to lack of necessary supplies, spare parts, servicing, or skilled operators, but it would require a separate study to examine the extent to which this really does occur.

There are numerous factors that may account for the rapid diffusion of medical techniques to developing countries which they can rationally ill afford. Overseas aid programmes have been biased towards the visible and prestigious items of advanced machinery and towards training doctors from developing countries in industrialized countries where latest techniques are stressed. Medical education, oriented towards industrialized countries, promotes a brain drain of the skilled manpower so vital for the health needs of developing countries.

What Can Be Done?

It is relevant that even in the richest countries it is increasingly being questioned whether all the latest techniques can be afforded, the extent to which some of them are appropriate to health needs of the population, and how much they can in fact contribute to health improvement. It is therefore imperative that in all countries, rich or poor, certain questions be posed about any techniques if the Goal of Health For All on the basis of Primary Health Care is to be achieved in the short time available. In less-developed countries, with very limited resources available for health services, these questions are the most vital:

- What is the cost of the technique, not only in terms of capital cost, but in terms of simplicity, efficacy, and maintenance?
- How many people will the technique serve?
- Finally, and perhaps the most important, how many people would be served and with what health improvement through alternative uses of the same resources?

If at the end of this consultation we can study and identify appropriate technologies in MCH care, select the most suitable ones, plan an action programme in their implementation, then we may achieve much in the short period of time before us.