

Cost Effective Medicine and Doctors

S M Aljunid, MD.MSc

Professor of Health Economics, Department of Community Health, Faculty of Medicine, Universiti Kebangsaan Malaysia, Jalan Tenteram, 56000, Cheras, Kuala Lumpur

Constraint in health care resources in developing countries is a major factor leading to inadequate provision and limitation in access to essential health care services. While health care costs continue to escalate in most countries around the world, the overall health care spending in developing countries continues to stay below 5% of the GDP, the level suggested by WHO back in 1977 when the Primary Health Care concept was launched. In Malaysia, it is estimated that total spending on health care services is around 3.8% of GDP with 42% of the spending contributed by individuals and households and the remaining 58% by the government¹. This pattern of health care spending is in marked contrast to developed countries. Among the OECD countries for example, the total health care spending is between 7% to 10% of their GDPs with the government as the main contributor providing between 65% to 80% of the total expenditure². The Macroeconomics and Health Commission of WHO estimated that low and middle income countries need to allocate between USD 30 to 40 per person per year to cover basic health services but at the moment these countries can afford to spend only USD 13 to USD 24 per person per year³.

One of the many factors which raises health care cost is the growth of new technologies which include new medical equipment, consumables and drugs. These new technologies were developed with the aim of improving the outcome of care but quite frequently they are costly and may not be affordable by most sections of the population in the world. In order to ensure that limited resources are wisely spent, monitoring and control mechanisms have to be put in place in a health care system. This is to ensure that interventions that are proven to be effective and efficient are allowed to be introduced into the health care system. 'Effectiveness' refers to the ability of such

intervention to achieve the desired outcome. In health care the desired outcome is improvement in health status. To put it simply, effectiveness is doing the right thing. Effectiveness alone is inadequate in evaluating an intervention as it ignores cost that has to be borne by health providers and consumers in order to achieve the desired outcome. Efficiency provides a wider perspective in dealing with the choices between various interventions available to manage a patient or provide solutions to solve health problems in the community. Efficiency refers to the ability of an intervention to produce an output at the lowest possible costs or to maximize the output at a given cost⁴. Cost-effective analysis is a technique to assess both effectiveness and efficiency in health care systems.

There are many ways to ensure efficiency and effectiveness in health care systems. In the late 70's and early 80's, the focus was on development of national formularies based on the WHO essential drug list with generic drugs as the preferred choice. In this approach, doctors and other health care providers can only prescribed drugs which are proven to be effective at reasonable cost funded by the government. The first essential drugs list was released by WHO in 1977 and since then it has gone through more than ten revisions. This initiative is given high priority by WHO and many other international agencies such as UNICEF and the World Bank because the proportion of expenditure on drugs as a percentage of an overall health spending is higher in developing countries which are lacking in control mechanisms to avoid over prescription of drugs by medical practitioners. It was observed that while developed countries spend less than one fifth of their total health spending on drugs, many developing countries in the world spend between 25% to 66% of the total national health expenditure. In most low income countries pharmaceuticals are the largest public

Corresponding Author: Syed Mohamed Aljunid, Professor of Health Economics, Department of Community Health, Faculty of Medicine, Universiti Kebangsaan Malaysia, Jalan Tenteram, 56000, Cheras, Kuala Lumpur

expenditure on health after personnel costs and the largest household health expenditure⁵. Among the criteria used by WHO Expert Committee on Drugs when choosing drugs in the same therapeutic category is relative cost-effectiveness by comparing the unit cost with the level of efficacy⁶.

However, having a National Drug Formulary alone may not necessarily be adequate to control over prescriptions and over spending in drugs. Doctors and health care workers need to be trained and monitored to ensure that they practise according to proper guidelines. In this volume of the Medical Journal of Malaysia, Teng *et al* have shown how prescribing habits of medical officers can be improved with simple intervention detailing and distribution of leaflets with guidelines on management of upper respiratory tract infections⁷. This intervention could be extended to include other conditions as well as in hospital settings where costly drugs are more widely used.

In some countries, efforts have been made to improve efficiency in health care system by controlling the importation of new and expensive equipment. Certificate of Needs have been introduced in many European countries to ensure that new and expensive medical equipment are introduced in an appropriate number to avoid inefficiency in health care spending. The control of expensive equipment to be acquired by hospitals was made simply to avoid their inappropriate use by doctors and investors with the aim to recover their capital investments. Health economists usually use the term "moral hazards and doctors and hospitals" to describe the inappropriate and overuse of expensive medical equipment^{8,9}.

Due to the lack of control mechanisms, in some developing countries the rates of growth of expensive medical equipment acquired by hospitals and clinics are higher than in many developed countries. In Thailand for example, the population to CT Scanners ratio is higher than in United Kingdom, Italy and France. In a five-year period between 1996 and 2001, the values of imported medical equipment in Thailand grew by more than 100 percent¹⁰.

More systematic approach to encourage cost-effective practice is by having a national body to carry out economic evaluation on selected interventions and provide input to practitioners to guide them. In Canada for example, the Canadian Agency for Drugs and Technologies in Health is a national body that provides Canada's federal, provincial and territorial health care

decision makers with credible, impartial advice and evidence-based information about the effectiveness and efficiency of drugs and other health technologies¹¹. An agency with a similar function was established in United Kingdom in 1999 called the National Institute for Clinical Excellence or NICE. This institution is a government funded agency responsible to assess new technology and provide clinical guidance to health professionals and organizations that employ them in England and Wales¹². Cost-effectiveness of the selected interventions is an important part of the assessment by NICE. The Institute functions as an independent entity outside NHS which gives it the freedom to carry out the assessment objectively. Even though it is argued that NICE should look into the equity aspect as well as efficiency in assessing new technologies, the organisation plays an important role in providing information which helps key policy decisions within the NHS^{13,14}.

In some countries, to ensure that the guidelines provided by health technology assessment agency are followed by practitioners, funding agencies use these input to guide their reimbursement packages. In other words only cost-effective interventions based on guidelines by health technology assessment agency are reimbursed by the funding bodies. List of benefits under the national health insurance schemes in many countries are drawn up based on input from health technology assessment agencies.

In Malaysia, the Health Technology Assessment Unit is currently under the Medical Division of Ministry of Health. Established in 1995, the Unit has carried out a number of health technology assessments and published the reports which can be downloaded from their website. The capacity of this Unit to carry out economic evaluation of new and existing health technology is probably limited since there is no health economist among the staff listed in their website¹⁵. In order to make it more effective, it is high time that an independent Health Technology Assessment Agency is established outside the Ministry of Health so that it can provide more objective assessment for both public and private health sector in this country. This is in line with the on-going efforts by the government to establish the National Health Care Financing Scheme which will cover services provided by both public and private providers.

In conclusion, with limited resources available for health care services in developing countries, the practice of cost-effective medicine is very crucial. New

and existing medical interventions should be fully and continuously be evaluated from the perspective of effectiveness and efficiency to ensure that whatever resources available within the health sector are not wasted but used to the maximum level to improve the health status of the population. At the same time, reforms in the health care system are required particularly in developing countries so that mechanisms

to control and monitor effectiveness and efficiency of health interventions are put in place and fully functioning. Only by taking these necessary steps can the objectives of health care system in improving and maintaining health status and quality of life of the population can be achieved and sustainable in the long term.

References

1. World Health Organisation. World Health Report 2006. Working together for Health. Geneva: World Health Organisation, 2006.
2. OECD Health Data 2006. <http://www.oecd.org/dataoecd/60/28/35529791.xls>
3. World Health Organisation. Report of the Commissions of Macroeconomics and Health. Macroeconomics and Health: Investing in Health for Economic Development. Geneva: World Health Organisation, 2001.
4. Donaldson C and Gerard K. Economics of health care financing: the visible hands. Macmillan Press Ltd. 1993; 70-71.
5. World Health Organisation Report on Essential Drugs. The rationale of essential drugs. Access, quality and rational use of medicines and essential drugs. Geneva: World Health Organisation, 2002.
6. World Health Organisation. The selection of essential medicines. WHO Policy Perspective on Medicine. Geneva: World Health Organisation, 2002.
7. Teng CL, Achike FI, Phua KI, *et al.* Modifying antibiotic prescribing: the effectiveness of academic detailing plus information leaflet in a Malaysian Primary Care Setting. *Med, J Malaysia* 2006; 63: 323-31.
8. Getzen TE. Health Economics: Fundamentals and flow of funds. John Wiley and Sons Inc. 1997; 44-47.
9. Donaldson C and Gerard K. Economics of health care financing: the visible hands. Macmillan Press Ltd. 1993; 101-14.
10. Aretz TH. Changes in Health Systems and Medical Education. Paper Presented in International Meeting on Medical Education in the Changing Health Systems and 7th Academic Conference on Medical Education. Naresuan University Hospital, Phitsanulok, Thailand. 7-9 August 2006.
11. <http://www.cadth.ca/index.php/en/home>
12. Rawlind MD and Culyer AJ. National Institute for Clinical Excellence and its value judgments. *BMJ* 2004; 329: 224-27.
13. Maynard A, Bloor K and Freemental N. Challenges for the National Institute for Clinical Excellence. *BMJ* 2004; 329: 227-9.
14. Eaton L. NICE accused of restricting treatment for eye patient. *BMJ* 2002; 325: 852.
15. http://medical.moh.gov.my/modules/xt_conteudo/index.php?id=1