# THE STRATEGY, COST, AND PROGRESS OF PRIMARY HEALTH CARE[1]

**Robert G. A. Boland[2] and Mary E. M. Young[2]**

*Recent years have seen mounting public and governmental enthusiasm for primary health care projects around the world. This article asks a number of hard questions about how the progress achieved through such ventures appears to relate to the costs involved and the strategies pursued.*

## Introduction

The slogan "Health for All by the Year 2000" *(1)* today repeatedly confronts virtually every student of international health. Expressing the creed and concept of comprehensive primary health care, it possesses a high degree of political and humanitarian appeal and simultaneously projects the underlying theme of "social justice for all." Supporting this approach, valuable pioneering research projects in primary health care at Narangwal, India *(2)*, Danfa, Ghana *(3)*, and Lampang, Thailand *(4, 5)* have demonstrated that with good leadership, enthusiasm, appropriate technology, and volunteer labor, comprehensive low-cost primary health care can succeed in improving people's health status anywhere so long as adequate financing is available; and since the 1978 Alma-Ata International Conference on Primary Health Care there has been an increasing investment in primary health care projects throughout the world, projects that have employed increasingly sophisticated planning and management techniques. Nevertheless, except in China, no national projects have demonstrated that they can provide long-term comprehensive primary health care in conditions of chronic poverty with purely local resources *(6)*.

Although an international definition of the term "primary health care" has been arrived at *(7)*, the term may still be confusing—for in some cases it is used to mean comprehensive primary health care (which includes the eight functions of nutrition, expanded immunization, sanitation and water supply, family planning, control of communicable diseases, maternal and child health care, health education, and basic curative care) and at other times it is used to mean selective primary health care, which includes only limited functions *(8)*. In this regard, it is not at all certain that primary health care needs to be comprehensive in order to be effective *(9)*, or that selective primary health care might not offer a more appropriate and practical avenue for attaining health for all by the year 2000.

Moreover, despite the volume of published data on primary health care projects and the unrestrained enthusiasm about comprehensive primary health care, it is still very difficult to determine the overall coverage, quality, efficiency, and effectiveness of the primary health care available *(10, 11)*. One complication here is that the routine international health statistics and reports of less-developed countries are generally considered less reliable than those of developed countries *(11)* for very practical reasons involving problems of communication, geography, administration, financing, and so forth. Also, since health and politics are related, some of the published health data must pass through a political

[1] Also appearing in Spanish in the *Boletín de la Oficina Sanitaria Panamericana*. The views and interpretations expressed in this article are the authors' own and do not necessarily reflect the official or unofficial position of any organization.

[2] Preventive Medicine Resident, School of Hygiene and Public Health, the Johns Hopkins University, 615 North Wolfe Street, Baltimore, Maryland, U.S.A.

screening process before being released to the public; and so doubt is often raised regarding its objective validity. In addition, much published data tends to consist of "process" and "output" data relating to specific primary health care projects, with little "outcome" or "effectiveness" data being available for the country as a whole.

Finally, although reports on primary health care consistently report "progress," we are also confronted with broad statements such as "comprehensive primary health care is not available for 70 per cent of the world's population," or "40 per cent of the world's children are malnourished," which leaves room for doubt about the effectiveness of primary health care to date *(10)*. Of course, it is certainly easier to criticize international health work than to perform it; and some degree of professional optimism that "things are getting better" may be needed to keep people motivated for the nearly impossible task that lies ahead. But even so, the tendency to pass quickly over less successful older projects and concentrate attention on new, more promising projects *(11)* may not be productive over the long run.

Keeping these things in mind, it would seem worth taking a brief hard look at primary health care in several countries around the world and to review in a general way how primary health care progress appears to relate to the costs involved and the strategies pursued.

## Successful Programs

The primary health care programs of three major developing countries appear to have achieved significant success. The countries involved are Cuba, with an annual per capita GNP of US$810; China, with an annual per capita GNP of US$460; and Tanzania, with an annual per capita GNP of US$100 *(6, 12, 13)*. According to the published data, these countries have provided virtually 100 per cent of their urban and rural populations with access to and coverage by primary health care of adequate quality. Furthermore, they have achieved this comprehensive primary health care coverage with national programs, using mainly their own resources, although Cuba is said to have received subsidies from the USSR and Tanzania has received large sums from church groups. The health care in question appears to be supplied either free or at a low affordable cost; traditional methods are used where appropriate; and the countries' health resources appear to be fairly equally shared by the general population.

It is true that the political weakness of the medical profession in these countries may have contributed to a relatively easy acceptance of paramedical staffs; and relative political and economic stability may have contributed to the continuity of health care services and organizations. Moreover, each of these countries appears to constitute a controlled society operated essentially through a one-party system; and each possesses a government with both the political will and political strength needed to overcome early political and cultural strains and to implement radical but necessary changes in the health system. Even in this context, it is worth noting that curative care may have been provided largely to satisfy public demand, while the major health status improvements may well have been accomplished through direct and indirect preventive measures.

In general, these countries do not seem to permit the same degree of personal freedom accepted as "normal" in the Western democracies—the individual freedom to live and work where one pleases, to travel about freely without permission, to marry and reproduce freely without official legal constraints, and so on. Thus, these successful primary health care programs seem to suggest some "trade-off" of such individual freedoms for better individual health and generally significant improvement in the rates of infant mortality, life expectancy, and net population growth.

## Less Successful Programs

Despite very considerable efforts to achieve comprehensive primary health care for all, there seems to be some agreement that various

countries with large populations have been experiencing considerable difficulty. Three of these countries are Nigeria, with an annual per capita GNP of US$560 *(9);* India, with an annual per capita GNP of US$180 *(14, 15);* and Afghanistan (before 1980), with an annual per capita GNP of US$240 *(11).*

According to the published data, it would seem that coverage with comprehensive primary health care of adequate quality was being provided for less than 30 per cent of the population, leaving 70 per cent to be covered by traditional healers. In the cities, international standards of health care were being maintained for some parts of the population, and in some rural areas comprehensive primary health care was achieving high coverage through programs financed by external funds—programs that could not be supported over the long run by local resources.

In these countries there has been a strong political commitment to primary health care, but there has been relatively little of the political organization and political power needed to achieve it for the general population, especially in view of the strength of the traditional medical profession. Major difficulties have arisen, not so much with the training of medical workers, but rather with their long-term financing, deployment, and logistical and managerial support within the government's administrative systems. Not only has reorganization and management training within each country's ministry of health proved extremely difficult, but such reorganization and training has not been adequate to cope with the envisaged radical changes—changes that would affect the whole government's administrative and political structure *(11).*

However, these societies, although fairly strongly controlled in terms of western democratic standards, have not yet made the "trade-off" of individual freedom for individual health. Thus, their community participation schemes may not bring "social justice for all," but rather another system of less than complete equality *(16)*—a system wherein local resources do not seem to offer either 100 per cent coverage with comprehensive primary health care or the eventual prospect of attaining acceptable levels of infant mortality, life expectancy and net population growth.

**Economic Costs**

There seems to be general agreement that long-term health is more related to nutrition, environmental conditions, and economic development than it is to the quality of curative medical care *(8),* but also that environments with chronic poverty are particularly resistant to economic development efforts. This has led to increasing efforts by international health professionals to show that comprehensive primary health care can be achieved with good technique for less than US$6 per capita annually *(17).*

Within this context, it is surprising how such low-cost estimates have tended to become accepted as practical targets without external verification *(18).* (In the business world, cost estimates are usually regarded more skeptically until they are audited by independent professional accountants.) Moreover, it would seem that establishing the per capita cost of primary health care requires clear definition of exactly what primary health care functions are provided for the specified population, and what assumptions have been made and justified. In this vein, it is quite difficult to decide whether such computations should include the "opportunity" cost of "free" manpower, supplies, food, etc.; international staffing costs (including head office overhead); water costs; road costs; supervisory costs; health ministry reorganization costs; training costs; and so on. Table 1 presents a hypothetical case showing some potential causes of error in such computations. It should also be recognized that the correct computation of past costs does not guarantee that future costs will be the same or that they will be supportable. Overall, we should recognize that there is no "true cost" of primary health care, only a relevant cost for a specific decision which may not be relevant for other decisions.

## Political and Cultural Costs

At the Alma-Ata Conference in 1978 *(1)*, the Director-General of the World Health Organization, Dr. Halfdan Mahler, hinted at the political and cultural cost of primary health care when he set forth political and social actions vital to achieving health for all by the year 2000 through primary health care. These actions, together with what logically appear to be the political and social cost implications of such actions, are as follows:

| Action needed | Cost implications |
|---|---|
| 1) Address inequality. | This involves a substantial sharing of resources, both within countries and between countries, that entails a significant political cost *(17)*. |
| 2) Insure proper planning and implementation of primary health care in the relevant sectors. | Despite variations in cultural values and management styles that affect the relative importance of time, efficiency, and other factors, this action involves political and cultural costs *(11)*. |
| 3) Mobilize the individual, family, and community to identify with primary health care through participation in management and planning. | Health may be a lower priority with some communities than cultural values or economic development; so this action likewise involves political and cultural costs *(17)*. |
| 4) Introduce reforms to insure the availability of technology capable of providing coverage for the whole country. | Servicing sparsely populated rural areas with little political influence involves significant political cost *(13)*. |
| 5) Introduce changes in the existing health systems. | Traditional conservatism, of both rural populations and the medical profession, as well as a demand for curative rather than the more effective preventive health care measures causes such action to involve significant political cost *(19)*. |
| 6) Make a political commitment to primary health care. | This commitment cannot be total, since we cannot expect the goal of health to be deemed more important than, say, the internal and external security of the state; but the stronger such a commitment is, the higher will be its political cost *(20)*. |

Thus, for a less-developed country with political and economic instability, the political cost of Health for All by the Year 2000 seems very high. As a result, we may find the practice of insufficient expenditure on health but extensive expenditure for weapons to reflect a country's relative priorities—priorities justified on the grounds that without political and economic stability all primary health care systems will fail in the long run.

It should also be noted that the cultural cost of primary health care may be considerable in countries that do not aspire to the Western model of rapid economic progress and prefer a slower rate of change that permits preservation of existing cultural values *(21)*. In such societies, chronic economic poverty may go hand in hand with use of traditional healers; prevailing concepts of life, death, and disease; and prevailing religious values. Most countries have long had health systems in which traditional healers provide care appropriate for local beliefs and resources. Unless general development can be provided for the people thus served, a little isolated primary health care may foster disillusionment with a lifestyle from which there is no escape. Hence, modern Western medicine may become competitive with and partly destroy the traditional culture in the name of "health for all" *(11)*, and so the cultural cost of primary health care may be significant.

## Primary Health Care Strategies

The 1981 General Assembly of the World Health Organization approved a global strategy of Health for All by the Year 2000 involving comprehensive primary health care for everyone *(7)*. This meeting went further than the Alma-Ata Conference in trying to show not merely what must be achieved but how it could be achieved. The approved global strategy deals with such matters as infrastructure, comprehensive 100 per cent coverage, community services, selective technology, and international support; it also sets forth 12 spe-

**Table 1. An example of some possible errors in estimating the costs of primary health care.**

| | | Per capita cost | Total cost |
|---|---|---|---|
| *Data used to estimate cost:* | | | |
| Population size: 10,000 people | | | |
| Costs: Paid local manpower | $10,000 | | |
| Paid local supplies | 10,000 | | |
| Total costs | $20,000 | | |
| Crude cost of primary health care: ($20,000/10,000 people) | | $ 2.00 | $ 20,000 |
| *Typical sources of errors:*[a] | | | |
| A. Ignoring the opportunity cost of "free" labor, supplies, and food ($30,000) | | 3.00 | 30,000 |
| B. Ignoring the costs of supervision, logistical reorganization, water, sanitation, communications, etc. that tend to become continuous ($20,000) | | 2.00 | 20,000 |
| C. Ignoring the depreciation cost of equipment and facilities ($10.000) | | 1.00 | 10,000 |
| D. Ignoring the cost of "free" overseas staffs with their head office overhead, travel expenses, etc. ($10,000) | | 1.00 | 10,000 |
| E. Ignoring the "start-up" costs and the training costs, which also tend to become continuous ($10,000) | | 1.00 | 10,000 |
| Subtotal: | | $10.00 | $100,000 |
| F. Using a per capita computation based on the total population rather than on the actual population that used the primary health care services (50 per cent of the 10,000 population) | | x2 | |
| Adjusted total cost ($100,000/5,000 people) of primary health care: | | $20.00 | $100,000 |

[a]The allocation of joint costs that affect both health and general development is a difficult technical decision for which the assumptions need to be clearly defined. This is similar to the cost-analysis problem facing oil industries seeking to determine the "cost" of different products coming out of the same "barrel of oil."

cific indicators to measure progress, these being:

1) Endorsement at the highest levels of the goal of Health for All by the Year 2000.

2) Adoption of mechanisms for involving people in the implementation of primary health care.

3) A health expenditure amounting to 5 per cent of the GNP.

4) The earmarking of a "reasonable" percentage of the GNP for community-based rather than hospital-based care.

5) Provision of support by developed countries to less-developed countries.

6) Provision of selective primary health care to promote water supply and sanitation, the expanded program of immunization, and establishment of local curative care facilities that can be reached within an hour by those served.

7) Adequate childhood nutrition.

8) An infant mortality rate of less than 50 deaths per 1,000 live births.

9) A life expectancy at birth of at least 60 years.

10) An annual GNP per capita above US$500.

11) An equitable distribution of health services for both urban and rural populations.

12) Adoption of new, broader health indicators covering both environmental conditions and the demand, supply, and utilization of health services.

This new global strategy, together with the enthusiastic support it has received, is making an important contribution toward the goal of Health for All by the Year 2000. For as Dr. Mahler noted some time before the global strategy was adopted:

> The goal is there; the ways to attain it are daily becoming clearer; and the lesson of the past two years is that if we temper our dreams with realism, we shall reach our goal in spite of the world's political and economic malaise *(7)*.

All this creates a need for global primary health care policies—that is, for decision-making rules capable of developing the strategy into operational plans. It is hoped that such policies, which must consider the political, cultural, and economic costs of primary health care, will deal with the following unresolved issues:

- Is the universal enthusiasm for comprehensive primary health care, which is similar to the enthusiasm for disease eradication and vertical health programs, justified by progress to date? Since primary health care does not need to be comprehensive to be effective, would Selective Primary Health Care for All by 1990—care encompassing nutrition, the expanded program of immunization, control of endemic diseases, and health education—be a more realistic international target? *(8, 22)*.
- Should very low-income countries with annual per capita GNPs of less than US$200 have the right (not merely the privilege) of free selective primary health care provided under a system of international social security, subject to annual audit and reporting? Should these countries in greatest need receive total or partial priority? *(20)*.
- Apart from the very low-income countries, should any primary health care project be started or allowed to continue at a level that cannot be supported in the long run by local resources, irrespective of outside financing? Should international help normally consist of manpower using local resources, rather than free food and supplies that provide only temporary relief and encourage long-term dependence? Should it be required that all new primary health care projects be part of national schemes after professional study of the political, cultural, and economic costs involved? *(6, 23, 24)*.
- Is it reasonable for less-developed countries to offer primary health care as a "free" service when traditional healers continue to cover over 50 per cent of the population on a fee-for-service basis in accordance with local custom? Should primary health care workers be volunteers rather than paid professionals, since the long-term continuity of volunteers is directly dependent upon paid employment opportunities—either in other work or as fee-for-service traditional healers?
- Should the twenty-odd basic generic drugs that could adequately treat 90 per cent of the world's communicable diseases *(11)* be manufactured by WHO at cost; and should drug manufacturers be prohibited from selling the same drugs under brand names so as to take the profit out of basic medications?
- Should controlled traditional healing be recognized as acceptable and desirable curative care in certain environments rather than merely a low-cost substitute for unaffordable Western medical care? *(6, 18)*.
- Should an annual audit designed to improve the reliability of national health statistics be made a first priority of international support, considering that such statistical data are vital to international resource allocation for health on an objective basis?
- Is the concerted effort being made to produce low-cost primary health care with improved technology (e.g., at a cost of US$6 per capita per annum) realistic over the long run, considering that an average life expectancy of over 60 years would entail heavy costs for the care of chronic diseases, on which developed countries spend over US$800 per capita each year?
- Should international refugee aid for primary health care be limited in time, so as to avoid becoming a secondary support for aggressive political change and to conserve international health resources?
- Should voluntary service organizations and bilateral agencies engaged in interna-

tional primary health care projects be licensed annually, audited, and monitored in such a way that their efforts are coordinated with primary health care global strategies, global policies, and national programs?

- Recognizing that nutrition and the environment have historically played a larger role in reducing the prevalence of communicable diseases than has improved curative care, how can we reconcile the distribution of free food to less-developed countries with the need to avoid creating long-term dependence?
- Is it reasonable to concentrate attention on the failure of developed countries to share resources adequately with the less-developed countries, while playing down the reluctance of less-developed countries to recognize an increasing need for internal sharing of limited resources?
- Is the recent recognition of primary health care as a viable financial development opportunity by the World Bank and other international organizations justified by the available data? *(8).*
- Overall, should recognition be given to the probability that health for all by the year 2000 may be more influenced by the adequacy of nutrition and the expanded program of immunization than by the quality of medical services that seem to involve relatively high economic, political, and cultural costs?

## Concluding Note

This brief article has sought to review primary health care progress in less-developed countries with large populations; to assess the economic, political, and cultural costs as they relate to the new WHO global strategy for Health for All by the Year 2000 using primary health care; and to identify some unresolved issues. Pending clarification of such issues, the following tentative suggestions appear to be in order:

1) The concept of Health for All by the Year 2000 and the global strategy for achieving it with primary health care have had a profound political influence throughout the world, but many unresolved issues remain to be clarified by the development of decision-making rules in the form of primary health care global policies.

2) Progress in primary health care for large populations in less-developed countries seems to require a "trade-off" of some individual freedom for individual health.

3) The costs of primary health care appear to be mainly economic, but the major constraints involved may well be its political and cultural costs.

4) The global primary health care strategy calls for 100 per cent comprehensive primary health care by the year 2000; a more realistic intermediate target might be Selective Primary Health Care for All by 1990 covering the areas of nutrition, the expanded program of immunization, control of communicable diseases, and health education.

5) For very low-income countries with annual per capita GNPs of less than US$200, one desirable method for directing international aid to the most needy would be a system of international social security giving their people the right (not the privilege) of free selective primary health care.

6) Licensing and conducting an annual audit of all organizations involved in international primary health care could provide a way to coordinate and control their efforts within the framework of a global primary health care strategy and policies.

## SUMMARY

With good leadership, adequate financing, appropriate technology, and volunteer labor, programs of comprehensive low-cost primary health care can succeed in improving people's health status practically anywhere; and, since the 1978 Alma-Ata International Conference on Primary Health Care, there has been an increasing investment in primary health care projects around the

world. This article briefly examines primary health care efforts in six countries and reviews in a general way how the progress achieved through such efforts appears to relate to the costs involved and the strategies pursued.

To begin with, the governments that have achieved the most marked success with national programs appear to exercise a strong degree of political control over their societies and to possess both the political will and political strength needed to effect radical changes in their health systems. Other countries that have made major efforts to provide comprehensive primary health care for all their people have experienced considerable difficulty. This general pattern suggests that the degree of success achieved depends partly upon a government's willingness and ability to pay a political price—and also to trade some measure of individual freedom for improved individual health.

Concerning economic costs, a number of authors have tried to show that comprehensive primary health care can be provided by means of appropriate technology at low cost—e.g., for less than US$6 per year. Such estimates need to be regarded with some caution, since they are apt to omit a variety of hidden costs that can raise the actual cost many times.

In addition, the cultural costs of primary health care can be considerable in countries that do not aspire to the Western model of rapid economic progress and prefer a slower pace of change that permits preservation of existing cultural values.

In 1981 the General Assembly of WHO approved a global strategy for attaining "Health for All by the Year 2000." This strategy has created a need for global policies—that is, for decision-making rules capable of developing the strategy into operational plans. These policies need to deal with a wide range of unresolved issues—including whether the enthusiasm for comprehensive primary health care is justified; whether an international social security system should be established to help the poorest countries provide such care; whether local primary health care activities should be self-supporting; and whether the goal of producing very low-cost comprehensive primary health care with improved technology is less realistic than selective primary health care covering only the areas of nutrition, the expanded program of immunization, control of communicable diseases, and health education.

## REFERENCES

*(1)* World Health Organization. *Primary Health Care: Report of the International Conference on Primary Health Care, Alma-Ata, USSR, September 1978.* Geneva, 1978.

*(2)* Taylor, C. E. From Projects to Implementation: The Narangwal Experience. Speech presented at the National Symposium on the Evaluation of Primary Health Care Programs sponsored by the Indian Council of Medical Research. April 1980.

*(3)* University of Ghana Medical School and the University of California School of Public Health. *Danfa Project Final Report.* Los Angeles, 1979.

*(4)* Werner, D. The village health worker: lackey or liberator? *World Health Forum* 2(1):46-53, 1981.

*(5)* World Health Organization. *The Work of WHO, 1978-1979. Biennial Report of the Director General to the World Health Organization and the United Nations.* Geneva, 1980.

*(6)* World Bank. Health Sector Policy Paper. Washington, D. C., 1980.

*(7)* World Health Organization. *Health for All by the Year 2000: Strategies.* Geneva, 1980.

*(8)* Evans, J. R., et al. Health care in the developing world: Problems of scarcity and choice. *N Engl J Med* 305(19):1117-1127, 1981.

*(9)* Ransome-Kuti, O., and C. DeSweemer. The Project Approach to the Development of a Basic Health Delivery System in Nigeria. Unpublished paper, 1980.

*(10)* World Health Organization. *Sixth Report of the World Health Situation, 1977-1979: Part I, Global Analysis; Part II, Review by Country and Area.* Geneva, 1980.

*(11)* O'Connor, R. W. *Managing Health Systems in Developing Areas.* Lexington Books, Boston, 1980.

*(12)* Adjukanovic, V., and E. P. Mach. *Alternative Approaches to Meeting Basic Needs in Developing Countries.* World Health Organization, Geneva, 1975.

*(13)* Navarro, V. Health, health services, and health planning in Cuba. *Int J Health Serv* 2:397-432, 1979.

*(14)* Mabele, R., W. M. Lyakurwa, T. N. Beno, and S. M. Wangwe. The economic development of Tanzania. *Scientific American* 243(3):182-191, 1980.

*(15)* Krishna, R. The economic development of India. *Scientific American* 243(3):166-181, 1980.

*(16)* Community Mobilization. In Institute of Medicine, Committee on International Health and Foreign Assistance in Health. *Ecological, Socioeconomic, and Cultural Factors in Health.* National Academy of Sciences, Washington, D.C., 1979.

*(17)* Taylor, C. E. Ethical Implications of Health for All by the Year 2000. Speech presented at the Annual Conference of the American Public Health Association. New York, October 1979.

*(18)* Bayoumi, A. The training and activity of village midwives in the Sudan. *Trop Doct,* July 1976, pp. 118-125.

*(19)* Thorne, M. C. Primary Health Care in the Near East. Unpublished paper, 1979.

*(20)* Illich, I. *Medical Nemesis: The Expropriation of Health.* Marion-Beyeres, London, 1975.

*(21)* Taylor, C. E. *Changing Patterns in International Health: Motivation and Relationships.* American Public Health Association, Washington, D.C., 1979.

*(22)* Berggren, W. L., D. C. Ewbank, and G. G. Berggren. Reduction of mortality in rural Haiti through a primary health care program. *N Engl J Med* 304:1324-1330, 1981.

*(23)* Smith, R. A. *Manpower and Primary Health Care.* University of Hawaii Press, Honolulu, 1978.

*(24)* Akerele, O., I. Tabibzadeh, and J. McGilvray. A new role for medical missionaries in Africa. *WHO Chron* 30:175-180, 1976.

## POLIOMYELITIS IN GUATEMALA

Twenty-eight cases of clinically diagnosed poliomyelitis, including two fatal cases, were reported from Guatemala City and six interior departments of Guatemala during the period 1 June - 20 August 1982. Most of the cases occurred in children below three years of age. Of 16 children with cases occurring in July, 10 had not received any poliomyelitis vaccine, five had received one dose, and one had reportedly received three doses. Because the total of 16 cases reported in July was above the average reported for that month in 1975-1981, special control measures have been instituted. Laboratory investigation of the cases is in progress.

---

*Source:* World Health Organization, *WHO Epidemiological Record* 57(36): 279, 1982.