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REACH

RESOURCES FOR CHILD HEALTH

FINANCIAL MANAGEMENT IN THE CONTEXT OF SUSTAINABILITY: PRIORITIES AND LESSONS LEARNED FROM THE REACH EXPERIENCE

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INTRODUCTION

Issues and Questions

EPI managers and ministries of health have begun asking some fundamental questions about financial management and sustainability of their immunization goals and programs.

> How much does the EPI program in our country cost?
> Are we allocating our currently available resources most effectively and efficiently?

Many countries faced with economic and budgetary problems, are also asking,

> Can we afford to continue, and expand, our immunization efforts, exclusively with our own national and local resources, if all external donor funding were withdrawn?

> How can we increase the funds available to EPI, without relying on external donor sources and without putting more demands on the ministry of health's budget?

The WHO Regional Office for South East Asia invited REACH to make a presentation at this conference that would identify the priorities and lessons learned from work REACH has done that has a bearing on these issues of financial management and sustainability. First it is important to say what we mean by financial management.

Approach to Financial Management

It should be recognized that a variety of definitions of financial management exist and there are numerous approaches to organizing and implementing financial management activities in practice. Definitions and approaches vary among ministries of health in different countries. Countries also differ in the way in which these responsibilities are allocated between the ministry of health and the ministries of finance and plan.

This paper views financial management in the broad sense of resource management and related resource planning and mobilization functions. From an operational perspective in ministries of health, most financial management activities are core activities of ministry budget offices. Often, ministry program managers also have responsibility for certain aspects of financial management.

In spite of variations among ministries and countries, the range of financial management activities, broadly defined, generally includes

- developing cost estimates for budget and program plans,
- reviewing and approving/disapproving requests for expenditure of funds authorized in the ministry's budget,
- allocating planned and available funds,
- accounting, reporting of funds status and use, and auditing,

- analysing expenditures and outcome measures to see if personnel, materiel, and monetary resources are used most efficiently and effectively,
- coordinating operating and investment budgets, mobilizing other revenue sources, and negotiating budget and program totals.

These activities fall within the general headings of resource planning, mobilization, and management and are some of the key components of the "sustainability" of any program. That is, they are among those functions that are essential for maintaining, and increasing as appropriate, the service delivery capacity to reach program goals set by governments and ministries of health. These functions are important whether the resources for a program such as EPI come exclusively from the country itself or from a combination of country and external, donor sources.

REACH has conducted several activities that provide information and lessons related to some of the key aspects of financial management and sustainability for immunization programs. The following presents some of the main findings and lessons learned from studies Reach has conducted, as well as from field experience in collaborating with ministries of health on these issues.

FINDINGS FROM RECENT STUDIES

Costs and Cost-Effectiveness of Immunization

REACH has conducted extensive research and field work to document and analyze the costs and cost-effectiveness of immunization programs in developing countries.[1] The main findings about the costs of immunization confirm earlier WHO estimates, made for the 1984 Bellagio Conference, of $5-15.00 per fully immunized child.

Cost data from studies that REACH identified as having comparable cost data and methodologies produced an average cost (1987 U.S. dollars) of $13.00 per fully immunized child (FIC), and $15.00/FIC when costs of technical assistance are included. Costs per FIC for the individual studies ranged from a low of $4.47 to high of $19.48. Table 1. on the following page provides detail on these findings.

Estimates for some of the countries in this region exist from other sources. Cost per fully immunized child in this SEA region have been estimated to fall within a fairly wide range, at different points in time over the past decade, from $1.00-5.00 at the lower end and $15-33 at the higher end.[2]

As EPI programs in many countries are attempting to estimate costs and cost effectiveness of their EPI programs, it may be useful to highlight several important points about the use of this kind of data.

First, research on costs and cost-effectiveness of immunization has revealed the difficulty of comparing costs across countries and among different studies, as well as difficulties of finding comparable methodologies and adequate field data. For example, REACH identified 28 cost and cost-effectiveness studies carried out between 1979 and 1987.

Table 1

COMPARISON OF COST-EFFECTIVENESS STUDIES OF THE EPI BY STRATEGY

COUNTRY	STRATEGY	COST 1987 $	NO. FIC	COST/FIC 1987 $
Burkina Faso (1987)[1]	Facility	$26,707	5,977	$4.47
Tanzania (1988)[2]	Facility	$4,571,000	7000,000	$6.53
Mauritania (1985)[3]	Facility	$88,698	12,297	$7.21
Philippines (1988)[4]	Facility	$17,036,583	1,233,147	$13.82
The Gambia (1982)[5]	Facility	$442,222	26,791	$16.51
Turkey (1988)[6]	Facility	$15,265,676	803,568	$19.00
Mean (n=6)		$6,241,373	463,630	$11.26
Mauritania (1985)[3]	Campaign	$207,652	25,507	$8.14
Cameroon (1987)[7]	Campaign	$4,905,427	255,000	$19.24
Senegal (1987)[8]	Campaign	$3,678,669	188,864	$19.48
Mean (n=3)		$2,920,311	156,457	$15.62
Burkina Faso (1987)[1]	Mobile	$16,512	2,325	$7.10
Mauritania (1985)[3]	Mobile	$290,313	20,604	$14.09
Mean (n=2)		$158,476	11,465	$10.60

[1] de Champeaux, Antoine, "Evaluation du programme elargi de vaccination, province de la Sissile," OCCGE, 1987.
[2] Ministry of Health, Tanzania, Joint Review on EPI in Tanzania, DANIDA Review Team (September 1987).
[3] Brenzel, L. Cost Effectiveness of Alternative Immunization Strategies in the Islamic Republic of Mauritania, UNICEF, 1986.
[4] Turner, Pamela, excerpts from a USAID Project Proposal (PP) for USAID/Manila, 1988.
[5] Robertson, R.L., et al., "Cost-Effectiveness of Immunization in The Gambia, Journal of Tropical Medicine and Hygiene, 1985, pp. 88, 434-351.
[6] Brenzel, L., The Cost-Effectiveness of the National Immunization and CDD Program in Turkey, REACH Publication, March 1988.
[7] Brenzel, L., "Cost-Effectiveness of Immunization Strategies in the Republic of Cameroon," REACH publication, August 1987.
[8] Brenzel, L., et al., "Rapid Assessment of Senegal's Acceleration Phase,"' submitted to UNICEF, November 1987.

Source: Brenzel, Logan. Costs of EPI. (Reach, September 1990).

Of these, only 11 studies in a total of 8 countries used sufficiently similar methodologies that the estimates could be compared. Of the 8 countries, 6 are in Africa, 1 in Asia, 1 in the Near East, and none in Latin America.

Second, because of these problems of comparability, the averages cited above are not necessarily representative and may or not be applicable to individual countries in other settings. These averages also mask a relatively wide range of existing estimates of the cost per fully immunized child.

Third, and perhaps most importantly in relation to the theme of this conference, there is no international "standard cost per fully immunized child" against which countries could measure the relative cost and efficiency of their program. Nor is there enough data to draw international generalizations about whether a particular immunization strategy (e.g., fixed facility) or combination (e.g., fixed plus mobile team) is most cost-effective. Each country needs to complete its own cost studies and cost-effectiveness estimates and analyses based on data for a whole variety of factors specific to their own situation.

In spite of these limitations, average cost estimates developed in numerous studies in recent years can be appropriately used for certain global estimating purposes. For example, it is possible, as described below, to apply the $15 average cost/FIC to an analysis of the costs and affordability of meeting EPI targets worldwide by the year 2000.

Affordability of EPI Targets

The worsening economic situation of many countries over the past five years has increasingly called attention to the need to develop realistic health financing strategies and goals. In this context, many ministries of health are raising questions about the affordability and financial sustainability of current and planned health services.

REACH has carried out an experimental analysis, using data from 50 countries, to test the prospects of financial sustainability of EPI efforts.[3] Specifically, the study tried to assess whether the goal of 80 percent coverage is an economically realistic objective for all countries to try to meet <u>using only their own resources</u>. Data was available and included for 8 countries in this SEA Region: Bangladesh, Bhutan, India, Indonesia, Myanamar, Nepal, Sri Lanka, and Thailand.

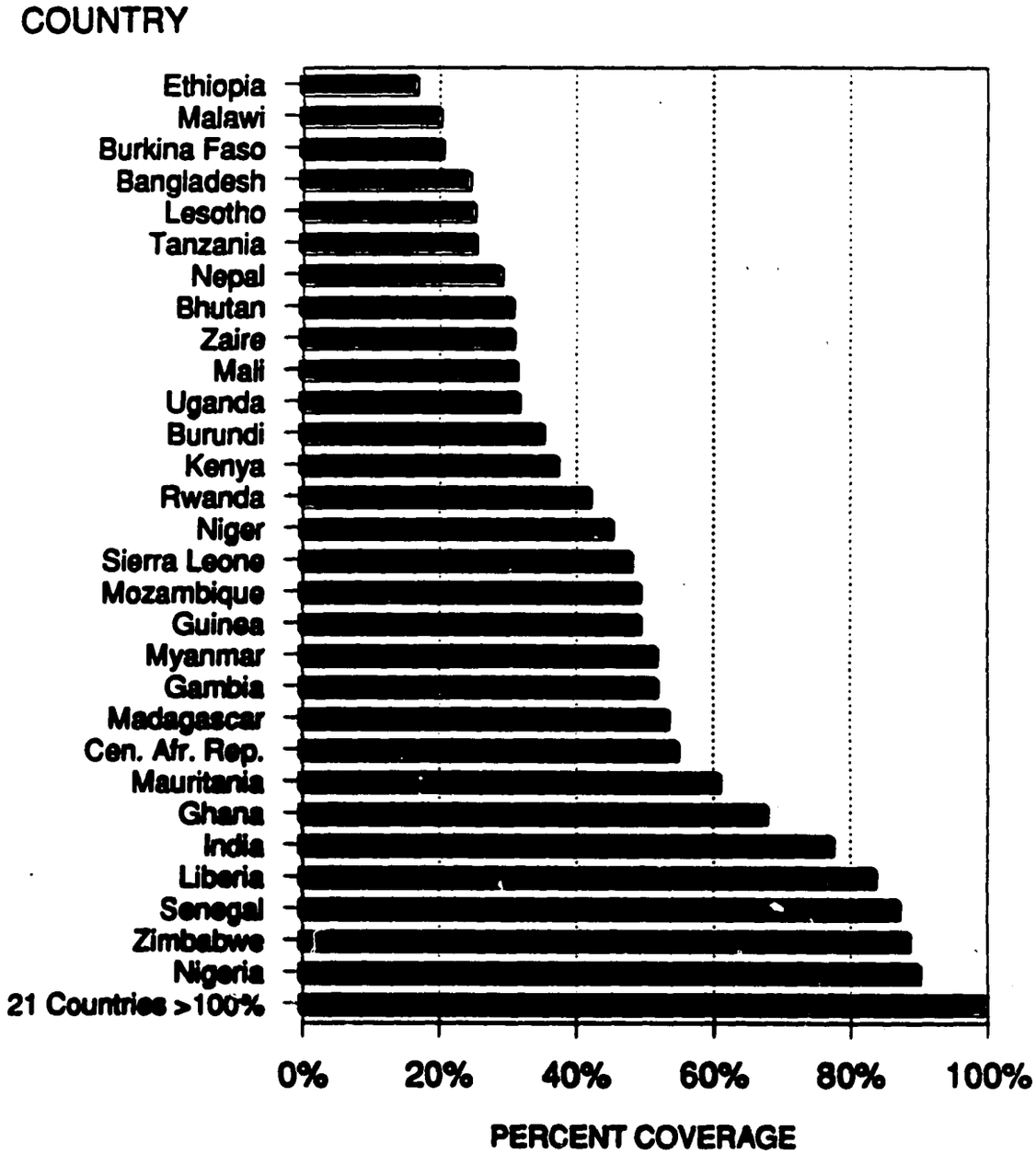
Some of the findings from this study can help illustrate some typical financial mangement situations and important choices and tradeoffs that EPI managers and ministries of health often face.

<u>Affordable coverage.</u> Chart 1. on the following page shows how many countries could afford 80 percent coverage in the year 2000 if it cost $15/FIC and if they spent 0.1 percent of their gross domestic product (GDP) that year. These estimates use World Bank data, with 1987 as the base year and projected under optimistic assumptions of economic and population growth over the next decade to the year 2000.

Chart 1

AFFORDABLE IMMUNIZATION COVERAGE

WITH EPI EXPENDITURES OF 0.1% OF GDP
HIGH GROWTH SCENARIO - YEAR 2000*



* Cost per FIC = $15

Source: Rosenthal, Gerald. "The Economic Burden of a Sustainable EPI: Implications for Donor Policy." REACH, 1990.

The data in Chart 1. show that

- One-half the sample, 25 countries, would have the economic capacity, spending at those levels, to achieve the 80 percent target and 21 of those could achieve 100 percent coverage by the year 2000.

- 7 countries, including Myanmar and India, could achieve between 50 and 75 percent coverage under these assumptions, and

- slightly over one-third of the countries in the sample, including Bangladesh, Nepal, and Bhutan, would be able to provide full immunization to less than 50 percent of their children.

To put these findings in perspective for each country, it is important to note that the study did not use actual spending or coverage data for each of the 50 countries. The study used the same estimating assumptions for each country for purposes of illustration and developing global generalizations about financial sustainability of EPI for as many country situations as possible.

Thus, some countries who show up in the study as unable to afford 80 percent coverage by 2000 using these average assumptions, may, in the real world, already be meeting or exceeding that target because the averages or assumptions do not apply. That is, they may be spending more than 0.1 percent of their GDP, making up the difference with donor resources, operating at less than $15/FIC, experiencing different economic or population growth rates than predicted, or some combination of all these.

Affordable costs. Chart 2. on the following page shows at what cost per fully immunized child the 80 percent target would be affordable for countries, using their own resources. Stated differently, it shows how much each country could afford to spend per fully immunized child at an 80 percent coverage level using its own resources (0.1 percent of their GDP) in the year 2000. As Chart 2. shows,

- 21 countries, including most in this SEA region, would have sufficient resources under these estimating assumptions to spend more than $20 per fully immunized child.

- one-half of the countries in the study, 25, could not afford as much as $15 per child and 21 of these countries could afford $10 or less per child.

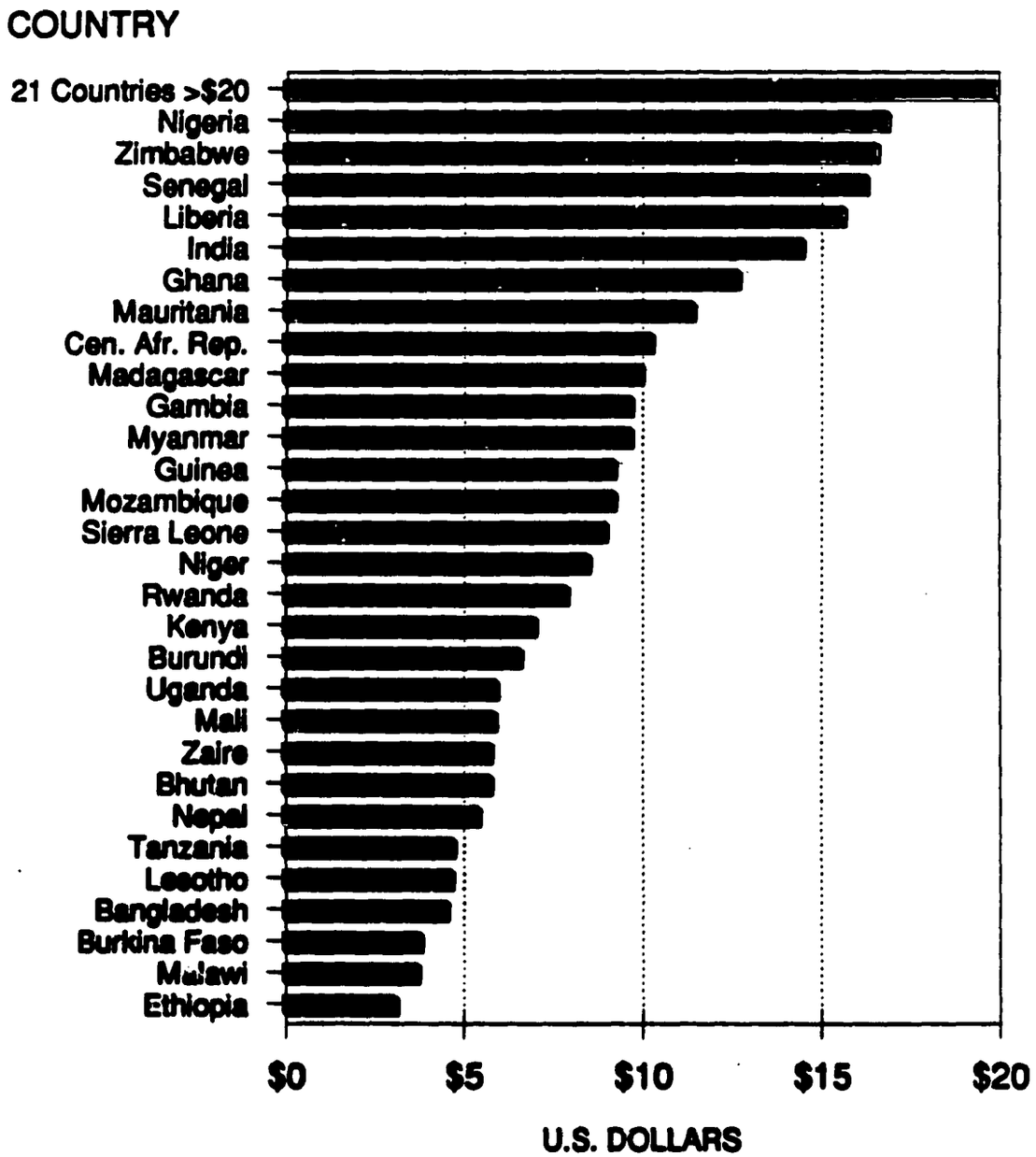
- 5 of the countries in this SEA region fall in this group of 25 who could afford $15 or less, using their own resources under the average assumptions of this study: India, Myanmar, Bhutan, Nepal, Bangladesh.

Because of the hypothetical nature of the data in this study, the specific country findings are not as important for purposes of this conference as the approach to key factors that affect long run financial sustainability of EPI. For instance, these two examples of ways to

Chart 2

AFFORDABLE EXPENDITURE PER FULLY IMMUNIZED CHILD

HIGH GROWTH SCENARIO - YEAR 2000*



* EPI expenditure of 0.1% of GDP
80% coverage

Source: Rosenthal, Gerald. "The Economic Burden of a Sustainable EPI: Implications for Donor Policy." REACH, 1990.

measure affordability of EPI serve to illustrate a common financial planning and management situation, in which the following questions are typically posed.

Are available resources adequate to reach a desired target at current costs?

If not, what are the options within the scope of financial management, assuming no change in the target?

The options most commonly considered are to:
reduce the costs/increase efficiency (e.g., cut costs to an affordable level by finding more efficient delivery strategies or new vaccines requiring fewer contacts),

find the resources necessary to make up the gap (e.g.,make up the difference with donor contributions, spend more than 0.1 percent of GDP, raise revenues through charging fees or other means),

use a combination of all these at the same time.

REACH recently completed a study of steps ministries of health are taking with respect to one of these options: initiatives for raising local and national revenues for immunization. The following section presents preliminary findings from this survey.

Raising Revenues for EPI

Given the relatively recent emergence of discussions about revenue raising, or resource mobilization, for immunization, it is worthwhile to highlight some of the origins of this issue.

Recent economic constraints that have prevented the expansion, or reduced the levels of, ministry of health budgets are among the most prominent of the factors leading to consideration and adoption of mechanisms to mobilize additional national and local funds from sources other than government health budgets. Concerns about financial sustainability also derive from the prospects that donor funding for the EPI may be reduced or withdrawn over the next 5-10 years.

For this SEA region, as a whole, donor resources account for less than one-third (27%) of total estimated spending for EPI.[4] But regional WHO reports suggest that several countries in the region are likely to rely on donors for greater proportions of the costs of immunization.[5] To be financially self-sufficient in EPI these latter countries potentially have to find means of replacing a donor-funded share of one-third or more of the total cost of their immunization programs.

In addition, almost all ministries not only need to maintain current levels of coverage, they need to expand those levels to meet the needs of growing populations. Finally, many ministries are considering the addition of other vaccines such as hepatitis B, as well as intensifying EPI efforts to include reduction of measles, eradication of polio and elimination of neonatal tetanus. These additional efforts would raise the total costs of achieving targets related to immunizable diseases.

While increased government funding for immunization and other preventive health measures may be desirable to cover these increasing costs, ministries of health in many countries have concluded that prospects for such increases are unlikely. Many of these ministries have considered or initiated efforts to recover some of the costs of immunization from the beneficiaries.

Preliminary findings, presented below, from the recent survey are based primarily on information from a questionnaire sent with the assistance of UNICEF and PAHO to all their field offices worldwide.[6]

Global and regional patterns. In general, findings of the study show that

- some method of revenue generation for EPI exists in over half (53%) of the 79 countries included in the survey report.

- The prevalence of revenue raising schemes shows some degree of regional variation, with 60 or more percent of the countries in Asia, the Near East, and Africa reporting some kind of scheme, compared with only 28 percent of the Latin American countries.

Countries reported a variety of methods in effect in the public sector, sometimes national in scope, or only in operation in one locality. Fifteen percent of the countries also reported the existence of private sector provision of immunization with fees charged for each immunization.

The survey also included questions about cost recovery for primary health care (PHC) in order to review financing for EPI in that broader context. In total, 40 percent of the countries in the survey reported some kind of fee or prepayment scheme that covers primary health care.

SEA region countries. Table 2. on the following page shows the specific study findings for each of the countries in this South East Asia Region, which is included for purposes of this survey in a combined regional grouping for Asia and the Near East. Information from the survey is available for 8 of the 11 countries of this region: Bangladesh, Bhutan, India, Indonesia, Maldives, Myanmar, Sri Lanka, and Thailand.

The survey reported that in all countries in this region for which information was available, ministries of health provide immunizations free of charge in public health facilities. But in 4 of the 8 countries in this region for which information was available, some proportion of the population seeks, and pays for, immunization services from the private sector. Thus, Table 2. shows that,

- for countries in this SEA Region, where fees are charged, it is in the private (for-profit) sector and consist of charges for a single, or series of, immunization(s).

- The dominant method of generating revenues for immunization in the public sector is through periodic labor or in-kind voluntary

Table 2

Methods for Raising Revenue for Immunization
Asia/Near East Region (1990)

Country	Fee per Shot/Series	Fee for Card	Pre-payment	Social Insurance	Earmarked Tax(es)	Fund Raising	Lottery	Voluntary Contrib. (cash)	Voluntary Contrib. (labor/kind)	Fee or Prepayment for PEC
Algeria	--	--	--	--	--		--	--	--	--
Bangladesh	PS	--	--	--	--		--		N	N
Bhutan	--	--	--		--	--	--		L	--
China (PRC)	L	--	L	N	--	--	--	L		L
Egypt	--	--	--		--	--	--	--	--	--
India	PS	--	--	N	--	N	--		L	L
Indonesia	PS	--		--		L	--		N	N
Iran	PS	--	--	--	--	--	--	--	--	--
Korea (Rep. of)	PS		--	N	--	--	--	--	--	PS
Laos	--	N	--		--	--	--	--	--	--
Lebanon	PVO,PS	--	--	N	--	--	--	--	--	--
Malaysia	PS	--	--	--	--	L	--	PVO	PVO	PS
Maldives	--	--	--	--	--	--	--		L	--
Morocco	--	--	--	--	--	--	--	--	--	--
Myanmar	--	--	--		--	--	--		L	--
Oman										
Pacific Islands	--		--		--	--	--			--
Pakistan	--	--	--		--	--	--			--
Philippines										
Sri Lanka	--	--	--		--	--	--			--
Syria	--	--	--		--	--	--			--
Thailand	PS	--	L		--	--	--	L	--	L
Tunisia	PS	--	--	N	--	--	--	--	L	--
Yemen	--	--						L	L	
Vietnam	--	--	L	--	--	--	--	--	--	--
Total: Pub./Priv.	1/9	1/0	3/0	5/na	0/na	3/0	0/0	3/1	8/1	5/2

Note: Cost recovery mechanisms which are no longer in effect or are under consideration are not included in totals.

Key:
N = at national level
L = at local or regional level
PS = in private (for-profit) sector
PVO = by PVOs/NGOs
-- = reported not to exist
na = not applicable
() = no longer in effect
* = under consideration
Blank indicates no information available

Source: Percy, Allison, Logan Brenzel, and Marie-Odile Waty. "Cost Recovery for Immunization: A Worldwide Survey of Experience." REACH, draft December 1990. Final forthcoming in 1991.

contributions, in operation sometimes nationwide, sometimes only locally. Seven (7) countries in the SEA Region reported some kind of voluntary fund-raising mechanism that contributes to cost recovery for immunization services in the public sector.

- Four of the countries in the SEA Region reported some fee or prepayment scheme for PHC in general. Two countries reported such schemes that are national in scope (Bangladesh, Indonesia); two reported local level schemes (India, Thailand).

Table 2. also shows that 4 countries in the SEA Region -- Bangladesh, India, Indonesia, and Thailand -- reported several types of revenue raising mechanisms (3-5 in each country) in place simultaneously. Three countries in this Region (Bhutan, Maldives, and Myanmar) reported the existence of only one mechanism: local efforts toward labor or in-kind contributions. These findings for the SEA Region are indicative of the diversity of approaches to financing strategies for immunization that prevails worldwide.

The survey did not provide sufficient information to evaluate the effectiveness of the various revenue generating strategies or their impact on use of immunization services. These factors are best assessed in-depth in specific country settings and REACH hopes to undertake selected follow-up assessments of these financing measures in the near future. In the meantime, some general lessons about health financing strategies are evident.

LESSONS LEARNED

The following identifies some important lessons that apply to the theme of this conference and that come from REACH field experience in collaborating with ministries of health to help strengthen health financing and financial management for immunization, as well as for primary health services and the health sector as a whole.

Revenue Generation

Health financing strategies. As findings from the REACH review of ministry initiatives to raise revenues for immunization suggest, it is important to recognize that almost every country currently uses a wide range of financing strategies to support immunization, primary health care, hospital, and other health services. Financing sources typically include the government budget, donor assistance, contributions from church missions and PVOs, and consumer payments. Even when the health system is primarily publicly supported and services provided free of charge, consumers often also purchase health services and medicines in the private sector, including in the traditional medicine sector.

Initiatives that seek to change the level and use of resources in health care systems need to recognize the complexity of these existing financing systems and the need to tailor interventions to specific settings. The various geographic regions of the world all have distinct economic and political characteristics, as well as different combinations of organizational and financing arrangements for their health systems. These variations among the regions, and among countries within a region,

mean that it is almost always necessary to adapt generic models and standard solutions to fit each case.

One of the main lessons learned from recent health financing reforms and experimentation is that "there are no formulas that apply globally." Almost every strategy works somewhere under some set of circumstances. Alternatively, specific financing schemes that are successful in one country are not necessarily successful in another. What is important now is to understand better what the conditions are for success of alternative strategies in different country circumstances.

Raising revenues for immunization and other primary and preventive health care. One approach commonly mentioned for increasing the funds available for EPI is to reallocate existing funds within the public sector from curative to preventive health services. But experience shows that this kind of reallocation is often more difficult than might be expected. Pressures to maintain and increase public resources for curative and hospital services often outweigh the claims of preventive and primary care services. Thus, many countries have shown a commitment to sustaining their immunization and primary health care programs by initiating various mechanisms to raise or mobilize additional national and local resources specifically for these services.

One of the greatest challenges for financing immunization is how to develop effective incentives and strategies for making more locally-based, sustainable resources available to improve and extend immunization and primary health care services.

Resource Allocation and Management

Efficiency and effectiveness. Experience has made it clear that activities to improve financial sustainability almost always need to be paired with management improvements to help allocate resources more efficiently and effectively. In fact, strengthening the overall financial management of a country's current health system is often the first step to major health financing reform. There are several reasons for emphasizing these management improvements.

First, for many countries, the 1980s were a period of economic deterioration and, in some cases, "crisis." In some countries budgetary pressures resulted in shortages of supplies, drugs, and fuel which have reduced even further the ability of the system to respond to growing health care needs. Efficient allocation and effective management of scarce resources are even more essential in these circumstances.

Second, ministries of health often face the effects of weak planning and management structures, including poor information and support systems for budgeting, monitoring, and strategic planning. These deficiencies can contribute to the financing problem and lead to inefficiencies and waste. They also pose a major constraint for achieving the potential of any health financing initiative, such as the introduction of fees in public health facilities, extension of health insurance coverage, and promotion of a greater role for the private sector in service delivery and facility operation.

Finally, measures to improve the efficiency of individual health facility operation, as well as of the overall organization and use of public and private health resources, are usually not accomplished quickly and automatically. Implementing these measures often requires a great deal of time and follow-up from many people at different levels of the system. In most cases, improved resource use requires strengthened planning, management, monitoring, accounting, personnel, and information systems and skills. It also requires, more broadly, a combination of better incentives and performance goals for health service providers and managers.

Quality improvements. Experience has shown that financing reforms and financial management initiatives often need to be integrated with other health sector activities to assure that they are closely linked to the ministry's goals for improving health service delivery and status. For example, in many countries it is especially important to improve -- as an integral part of a major initiative to mobilize new resources by introducing user fees or other cost recovery efforts -- the quality and accessibility of the relevant health services.

A great deal of evidence has now accumulated that people in all parts of the world are willing to pay for services where high quality is perceived and/or to help assure the availability of medicines and vaccines. This relationship between perceived quality and willingness to pay is equally true for preventive as for curative services. REACH has learned that, along with measures that take into account people's capacity to pay, it is important to assure or improve the quality of health services in order to promote people's willingness to pay for them.

Sustainability

Priority services. One of the main lessons from analyses of financial sustainability of EPI is that, to be effective in the longer run, financing and related management strategies for a single health service, such as immunization, should not be developed in isolation from the financing and service delivery structure of primary health care and the total health system.

One of the main reasons for linking financing initiatives for immunization with primary health care more generally is that financing strategies interact just as service delivery strategies interact. The service delivery settings, health workers, and people seeking immunization services are often the same as those for primary care.

Timeframes. REACH's study of the affordability of EPI presented in this paper suggests that, for some countries, there may be absolute economic constraints on the potential for any health financing or management initiative to make immunization services financially sustainable solely through local resources by the year 2000 or soon thereafter. These constraints serve to emphasize that sustainability is not usually a short run proposition, but requires long term perpectives and planning. In the short run, many countries will require continued donor financial assistance to achieve desired immunization coverage levels.

PRIORITIES

Several priorities can be identified from the key points of these lessons learned. These priorities identify some of the important considerations that should be addressed as ministries design and undertake new initiatives in health financing and financial management in an attempt to promote the sustainability of immunization and primary health care programs.

Long term planning. As is true for many other development activities, strengthening the financing and management of health service delivery systems requires commitment to and planning for a long-term activity. Planning needs to be long-term because, in most cases, multiple interventions are required to support efforts to keep pace with a country's growing and changing needs for mobilizing resources for health and for allocating those resources effectively and efficiently.

Integrated approaches. Efforts to improve financial sustainability and financial management in the health sector need to take an integrated approach, because no single funding source or strategy is usually sufficient to provide adequate resources for priority services and initiatives, such as universal child immunization, as well as all other health services that populations and ministries of health want to have available.

A variety of sources -- consumer payments, general public revenues, earmarked taxes, employment based payment -- should all be considered. A variety of strategies -- insurance, fees for service, efficiency improvements, reallocation of resources -- should also be considered, and sometimes supported simultaneously, with more or less emphasis given to particular initiatives depending on country specific circumstances.

Reliance on a single financing strategy -- such as fees for a health card or lotteries or health insurance for wage earners -- is not likely to achieve the goal of developing financially sustainable immunization or primmary health care programs. Consideration and integration of a variety of approaches maximizes the potential of health financing reform to improve health services and health status.

Improved, practical financial management tools. Top priority should be given to further development of improved methodologies and practical tools that can be readily adapted to the specific requirements of individual country settings. These tools should focus on promoting capacity to 1) plan and design effective resource use at each level of the service delivery system, 2) make maximum use of national and local resources, and 3) manage the use of those resources efficiently. Specific examples include:

- tools that help estimate costs and resource needs at each level in relation to available resources;
- tools to help analyze effective and equitable use of scarce health resources, including best combinations of service delivery strategies for meeting a ministry of health's policy goals;

- improved methodologies to measure and monitor health service delivery outcomes, effectiveness, efficiency, and productivity;

- applied management tools and practical information systems that allow managers to mobilize resources more effectively, to evaluate system performance, and to monitor the impact of fee structures on the equitable distribution of, and access to, health services;

- simple techniques for projections of demand, income from fee revenues, and expenses.

Incentives for effective and efficient resource management. Developing incentives for better resource management should be a top priority for financial management initiatives. These incentives need to provide concrete and visible rewards to program and budget managers and to service delivery personnel who develop more effective or more efficient ways to provide priority services to target populations. There need, as well, to be sanctions, or disincentives, for such actions as wasting resources or not maintaining quality standards. Thus, ministries need to establish or improve personnel and budgetary processes to promote

- the broad use of incentive structures for all levels of the system to bolster improvements in quality, effectiveness, and efficiency of health service delivery.

Investment in institutional and skills development. Tools and analyses can be applied to identify problem areas and to help improve a specific outcome of resource use. But sustained performance of health financing and health service delivery systems also requires well functioning institutions and strong managerial, analytic, and technical skills.

Investing in these improvements should include long-term commitments to:

- planning, budgeting, and management processes based on effective and equitable resource allocation;

- continuing improvements in job skills for management and budgeting;

- effective processes and institutional relationships for planning, mobilizing, coordinating, and allocating available local, national, and ,as necessary, international resources.

FOOTNOTES

[1]Brenzel, Logan. "The Cost of EPI: A Review of Cost and Cost-Effectiveness Studies (1979-1987)." (REACH, April 1989). and Brenzel, Logan. "The Costs of EPI: Lessons Learned from Cost and Cost-Effectiveness Studies of Immunization Programs." (REACH, September 1990).

[2]Mochny,I. and A. Fric, G. Presthus, N. Srivastava. "EPI in South East Asia: Sustainability". (WHO/SEARO/Delhi. December 1989.) pp. 19-20.

[3]Rosenthal, Gerald. "The Economic Burden of Sustainable EPI: Implications for Donor Policy." (REACH, February 1990).

[4]Mochny, op.cit.

[5]ibid.

[6]Percy, Allison and Logan Brenzel. "Cost Recovery for Immunization: A Worldwide Survey of Experience. (REACH, Draft, December 1990; final forthcoming 1991)