

# Economic Appraisal and Decision Rules

## Project Acceptability

In a few limited cases, it is possible to subject health projects to a full cost-benefit analysis in which the values of health benefits are compared with project costs in a conventional economic NPV and IRR calculation. In such instances, conventional decision criteria as discussed in *Guidelines 1997* can be applied. An acceptable project will have an IRR above the test discount rate, which would be 12 percent in a conventional calculation. Projects that are competing for the same funds should be judged on the size of the economic NPV at the test discount rate. Such calculations will be rare for the health sector because of the intrinsic difficulty

of health benefit valuation. Hence, cost-effectiveness criteria will be of more direct operational relevance.

Cost-effectiveness analysis for health projects is meant to aid decision-taking by selecting projects that create desired health outcomes at the minimum cost in use of resources. It is desirable for any project at the initial planning stage to consider alternative variants and select the most appropriate. Normally, cost consideration is one of the key factors in selecting which alternative to put forward. In principle, there is no reason why the same procedures cannot be applied in the health sector. CEI can be calculated for health projects in various ways. If the choice is between two versions of the same project, then use of a process indicator (for example, health impact in terms of patients served, beds provided, or nurses trained) may be adequate. Here, CEI comparisons will be based on discounted costs per discounted unit of health impact, however that is defined.

If, however, choices have to be made in the allocation of a given health budget, it will be necessary to look into the cost-effectiveness of different types of health projects (such as alternative immunization programs or preventive versus curative treatment). In broader comparisons, it will be necessary to use a measure of health outcome as the impact indicator for CEI. For projects whose primary effect is mortality reduction, YLG will be the appropriate measure. However, where morbidity as well as mortality effects are important, attempts should be made to calculate either HYLG or DALYs. Either composite measure can be used on its own or in conjunction with YLG. If the two versions of CEI are consistent in their selection of the lower cost project, then there will be an unambiguous ranking. But where use of either HYLG or DALY gives a different preferred choice to YLG, there will be a need to look closely at the alternatives to test how dependent the outcome is on the set of weights used to derive the composite measure. If the result is not very sensitive to the choice of weights, the implication is that allowing for morbidity effects of a project, regardless of how these are weighted, will reverse the decision taken on the basis of mortality effects alone. This suggests that the result based on the HYLG or DALY measure should form the basis for decision-taking.

The normal use of cost-effectiveness analysis is to select between competing uses of funds. However, there may be situations in which the CEI may be used not just to identify the cheaper alternative but also to decide whether to go ahead with the cheaper alternative. Costs per YLG, HYLG, or DALY may vary significantly between different types of health projects. It is helpful to identify an approximate average cost either for an individual country or for different types of health interventions internationally. This could be collected from past evaluations of health sector projects, for example. The data will give an indication of whether the expected costs per life saved from a project vary significantly from the norm for the country or internationally.

A project whose CEI (after prices and weights are put on a comparable basis) is above the average for the country or internationally need not be rejected; but an explanation for the higher than average cost as a result of project-specific conditions (such as remote location or high training costs due to staff scarcity) would have to be considered. Where no convincing explanation is forthcoming, the project would need to be redesigned or rejected.

As an illustration of a standard for cost per DALY comparisons, *Table 5* gives a range of estimates for different illnesses in both low and middle-income economies.

Table 5  
Estimated Costs per DALY

|  | Cost/DALY (1990 \$) |
|--|---------------------|
| Low income economies                       |                     |
| Short course chemotherapy for tuberculosis | 3–5                 |
| Prenatal and delivery care                 | 30–50               |
| Family planning                            | 20–30               |
| Treatment of STDs                          | 1–3                 |
| Middle income economies                    |                     |
| Short course chemotherapy for tuberculosis | 5–7                 |
| Prenatal and delivery care                 | 60–110              |
| Family planning                            | 100–150             |
| Treatment of STDs                          | 10–15               |

Source: World Bank. *World Development Report 1993*. Table 5.3

Like projects from other sectors, health projects will be subject to varying degrees of uncertainty which relate not just to subjective weights but also to the underlying epidemiological data used to determine health effects. It must be clearly acknowledged that the strength of the scientific basis for predictions of health impacts will vary greatly between different forms of intervention. Appendix 9 of ADB's *Policy for the Health Sector* (February 1999) discusses this in detail. Again, sensitivity testing will be important since it will be necessary to establish whether a particular choice of project is dependent upon optimistic assumptions (for example, about changes in the incidence of and fatality rates from different diseases).

ADB's *Policy for the Health Sector* suggests a list of priorities for health projects based principally on the cost-effectiveness of the interventions, the scientific evidence supporting their likely impact, and the types of beneficiaries. Cost-effectiveness is

measured in \$ per DALY. *Table 6* (pp. 72-75) lists the priority interventions and the estimated costs per DALY. These priority interventions are aimed at the poor and other priority groups. If social priorities are addressed by an identification of type of a project, then CEIs can be applied to such projects to assess their efficiency in resource use. This means that some such projects may be either rejected or redesigned if their costs per DALY (or per other indicator) are judged excessive relative to either international norms or to similar projects in the country concerned.

It is important to note that use of cost-effectiveness analysis as the basis for decision-taking on health projects can suggest implicit valuation judgments on health outcomes. This can arise where two projects that reach populations of different sizes are compared. One project may save 100,000 discounted life years while the smaller project may save only 75,000. The discounted costs may be \$2.5 million for project 1 and \$1.5 million for project 2. Use of a CEI comparison would recommend project 2, since it has a cost of \$20 per life saved ( $1.5/0.075=20$ ), while project 1 has a cost of \$25 ( $2.5/0.1=25$ ). However, selection of project 2 would mean that 25,000 less life years would be saved at a resource cost saving of \$1.0 million. This decision, therefore, suggests that if there is no other way of saving the 25,000 life years then, implicitly, they are being given up for \$1.0 million or \$40 per life year. Hence, although a valuation of life is not made explicit, it is still implicit in this type of decision. Where this type of situation arises, the implications in terms of valuation of lives foregone should be made explicit so that decision-takers can be made aware of what is implied by their decision. *Box 11* taken from the *Guidelines 1997* gives another illustration of this problem.

## Box 11

**Implicit Values and Cost-Effectiveness Analysis**

Three alternative combinations of vaccination programs and village health worker (VHW) programs are being considered to serve a particular population. An epidemiological study reveals that a vaccination program saves between 50 and 70 healthy life days per vaccination, while a village health worker program is estimated to save between 7 and 15 healthy life days per visit. The three different programs with different costs and combinations of vaccinations and visits are compared in the table below. Program 2 with a cost of \$4.71 per healthy life day is the most cost-effective. In the table below, costs and days saved are shown on an annual basis so that no discounting is needed.

**Choosing Between Health Project Alternatives**

|   | <b>Program 1</b> | <b>Program 2</b> | <b>Program 3</b> |
|---|------------------|------------------|------------------|
| Annualized cost (\$)  | 300,000          | 200,000          | 160,000          |
| VHW visits per year   | 2,000            | 2,500            | 2,100            |
| HLDs saved per visit<br>(visits x 10 HLDs per visit)                      | 20,000           | 25,000           | 21,000           |
| Vaccinations  | 500              | 350              | 200              |
| HLDs saved by vaccinations<br>(vaccinations x 50 HLDs per<br>vaccination) | 25,000           | 17,500           | 10,000           |
| Total HLDs saved  | 45,000           | 42,500           | 31,000           |
| Cost per HLD saved (\$)   | 6.67             | 4.71             | 5.16             |
| Note: HLD is healthy life days<br>VHW is village health worker            |                  |                  |                  |

A complication arises because program 2 reaches less people than program 1, which is the largest of the three alternatives in terms of days saved. Program 1 has a higher cost and its annualized cost exceeds that of program 2 by \$100,000. However against this it saves 2,500 more days. In the comparison between 2 and 1, program 1 saves an extra 2,500 days at an extra cost of \$100,000, which is a cost of \$40 per day saved. The most cost-effective solution would be to expand program 2 to reach as many people as program 1, as this will generate maximum days saved for a given budget. A problem will arise if there is a constraint in expanding program 2 (for example, because of a shortage of village health villages). If 2 cannot be expanded, the extra 2,500 days saved annually can only be achieved at a high marginal cost from program 1. A decision will have to be taken as to whether this should be done. If program 1 were selected, the implication is that the extra days saved were worth more than \$40 each. If 2 were selected, then the implication is that the extra days are worth less than \$40.

Source: Asian Development Bank. 1997. *Guidelines for the Economic Analysis of Projects*. Appendix 19. Project Economic Evaluation Division, Economics and Development Resource Center. Manila, Philippines.

Table 6  
**Priority Public Health Interventions Required in All DMCs**

Interventions are listed in approximately decreasing order of priority. Issues are highlighted in **bold and italics**.

| Intervention  | Efficacy  | Ease of Implementation                              |  |
|---|---|---|--|
|   |   | Quality of Evidence <sup>1</sup>                    | Burden of Disease in Asia  |
| Immunization:<br>Measles, Diphtheria-Pertussis-Tetanus (DPT), Polio, Hepatitis B, Tuberculosis (BCG), Tetanus Toxoid (TT) | Prevents 72–98% of cases, 50% of TB.  | Class II, many studies.<br>Class I for Hepatitis B. | Fifth leading cause of DALYs lost.   |
| Vitamin A Supplements   | Reduces overall mortality by 23% in children ages 6–72 months and maternal mortality by 38%.                            | Class I   | 23% of mortality in children 6–72 months. Prevalence of subclinical vitamin A deficiency is widespread.                |
| Family Planning:<br>Modern Methods for Birth Spacing  | 80–95% effective in preventing pregnancy. Decreases maternal morbidity and mortality by reducing high risk pregnancies. | Class I<br>Class II                                 | Unmet demand among married women in Asia (excluding China) is >62 million or 19% of married women of reproductive age. |
| Iodine:<br>Supplementation;<br>iodization of salt or water supply   | Prevents goiter and cretinism 100%  | Class II  | 130 million with goiter, 5 million cases overt cretinism, 680 million people at risk.                                  |
| Treatment of TB,<br>short-course chemotherapy   | Full treatment 95–98% effective in treating disease and in stopping transmission.                                       | Class I   | 1.4 million deaths, 6th leading cause of DALYs lost, 1990.   |

<sup>1</sup> Evidence: Class I = randomized controlled studies; Class II = prospective studies with non-random assignment to comparison group and case-control studies; Class III = cross-sectional studies or studies with historical data and regression analysis to isolate potential causal factors; Class IV = case series, case studies, and anecdotes.

Source: ADB Policy for the Health Sector. February 1999.

| Demand Issues   | Supply Issues  | Cost/DALY Saved | Burden on the Disadvantaged (Equity)   |
|---|--|-----------------|--|
| Demand high. Parents appreciate immunizations.  | Most immunization is provided by public sector. Governments are able to implement programs covering 80% of children ages <1 year.  | \$25            | Poor are disproportionately affected due to crowded conditions.  |
| High demand by parents.   | Capsules require no refrigeration, can be administered by lay people. <i>Difficulty in reaching older children.</i> Supplements must be sustained until food fortification is in place.                                      | \$1             | Poor children and women are more susceptible to deficiency.  |
| High demand by couples, although education and marketing are still needed to reach high use rate. | <i>Serious issues of supply, wide variety in technical quality of services.</i> Subsidies reach poor, who disproportionately use public services.  | \$25–\$75       | Cost of raising children is disproportionately burdensome for poor families. Poor women are at higher risk of maternal mortality.          |
| Demand unknown.   | Salt fortification is making progress but is <i>complicated by large numbers of small producers. Regulation required.</i>  | \$8–\$19        | Prevalence highest in marginal areas where soils are iodine deficient and where disproportionate number of poor live.                      |
| Demand, as reflected in adherence to therapy, is a major issue.                                   | To increase therapy completion requires very careful implementation, including logistics and supervision. Much of treatment occurs in private sector. <i>Quality of care in public and private sectors is a major issue.</i> | \$3–\$5         | TB affects poor disproportionately due to crowding, poor ventilation, poor light, and inadequate nutrition. Poor have less access to care. |

Table 6  
**Priority Public Health Interventions Required in All DMCs** (continued)

| Intervention   | Efficacy  | Ease of Implementation   |   |
|--|---|--|---|
|  |   | Quality of Evidence <sup>1</sup>   | Burden of Disease in Asia   |
| Treatment of STDs in High-risk Groups                      | Cures and prevents transmission of STDs. May reduce HIV incidence by 40%.                               | Class I: clinical drug efficacy in most cases certain; treatment reduces HIV transmission. | Increasing STD cases; increasing multi-drug resistance, increasing HIV.                         |
| ARI Case Management  | Treatment 80% effective; ARI case management reduces infant mortality by 20%.                           | Class I, II  | First leading cause of death among children; second leading cause of DALYs lost, 1990.          |
| Management of Diarrhea with ORT; ORS in community          | ORT reduces by 40% deaths due to dehydration from diarrhea.   | Class II   | Fourth leading cause of lost DALYs; 1.4 million deaths, 1990.                                   |
| Programs to Reduce Use of Tobacco: taxes, health promotion | Taxation reduces consumption by estimated 0.5% for every 1% increase in price. Health promotion effects | Class III - taxes<br>Class II - education  | 1990: 5% of deaths and 2% of DALYs lost; 2020 projection - 13% of deaths and 11% of DALYs lost. |
| Hygiene Education: hand washing                            | 23–26% reduction in diarrhea  | Class I:<br>2 studies  | 1990: Diarrhea is fourth leading cause of lost DALYs; 1.4 million deaths, 1990.                 |

<sup>1</sup> Evidence: Class I = randomized controlled studies; Class II = prospective studies with non-random assignment to comparison group and case-control studies; Class III = cross-sectional studies or studies with historical data and regression analysis to isolate potential causal factors; Class IV = case series, case studies, and anecdotes.

| Demand Issues   | Supply Issues  | Cost/DALY Saved | Burden on the Disadvantaged (Equity)   |
|---|--|-----------------|--|
| Demand high when symptomatic but adherence to treatment is weak. Demand low in asymptomatic cases.                      | Lab tests and medications are expensive. Drug supply is often inadequate. Syndromic treatment approaches need to be validated. Much of treatment occurs in private sector. Quality of care in public and private sectors is a major issue. | \$1–\$55        | Women are biologically more vulnerable to STD and HIV infection and more likely to be asymptomatic. Poor are more likely to be involved in commercial sex. |
| Demand for treatment is high, but parents may bring children in late stages of disease.                                 | Much of treatment occurs in private sector. Quality of care in public and private sectors is a major issue. Misuse of antibiotics is widespread.   | \$25            | Crowding and poor nutrition are risk factors for ARI.  |
| ORS does not stop diarrhea. Cultural views of diarrhea may interfere with early treatment; parents bring children late. | Most treatment occurs in the private sector. Quality of care in public and private sectors is a major issue, with high reliance on antibiotics.  | \$25–\$75       | Poor are disproportionately affected due to poor nutrition and contaminated water.   |
| Reducing demand is difficult and time-consuming, requires considerable health promotion efforts and tax increases.      | Taxes are sources of government revenue. Tobacco control efforts are opposed by commercial interests. Smuggling may occur if taxes are too high. Limited experience with education and cessation efforts on broad scale.                   | \$25            | Price elasticity is most pronounced among poor and youth. Youth are targeted by industry advertising.  |
| Demand constrained when water supply is limited.  | Existing strategies too costly for widespread implementation.  | high            | Poor are disproportionately affected by diarrhea.  |

## Fiscal Impact

The financial sustainability of most public sector health projects will be determined by their impact on government finances. Financial sustainability first requires that there are adequate funds to cover the capital expenditure of the project, including working capital, so that it has an adequate financing plan. Second, it requires that there are sufficient funds to cover the operating and maintenance costs of the project. Even when user charges are imposed, it is still rare that public sector health projects in the region would be able to generate sufficient revenue to cover all operating and maintenance costs. Hence, it is important to ensure that government support be forthcoming to cover the balance.

Often, governments have been able to fund capital expenditure on health projects while failing to cover recurrent or operating costs. The  $r$  coefficient (defined as the ratio of incremental recurrent expenditure to total capital investment) taken from past projects has been used to forecast the extent of the need for covering operating budgets for new projects. Within the category of operating costs, it is often wage and salary costs which are covered first when funds are scarce because of a commitment to the staff. This can lead to a scarcity of essential drugs and supplies.

The impact of a project on the fiscal balance is defined as the difference between the income a project creates for the government and the government income it uses. In project calculations, this should be identified on an annual basis and these annual figures can also be discounted (at the standard test discount rate) to give a present value. Public sector health projects will be net users of government income and establishing the impact on government finances, principally of counterpart local funds in the capital costs and recurrent expenditure, is an important part of an economic analysis. Once the magnitude of this fiscal impact has been established, it can be put in the context of the total government health budget to establish if there is a financial gap that must be bridged by higher taxation, borrowing or user charges. Public funding for health projects can come from the local as well as the central government; and where significant funds come from the former, it will be necessary to do a separate impact calculation for this lower level of government. This is illustrated in Appendix 9 on the Philippines Early Childhood Development Project.

Use of public funding to cover health project costs is a subsidy to health beneficiaries. This is often rationalized on equity grounds, although some studies on the distributional impact of past programs of health subsidies have revealed significant leakage of the benefits of subsidies to the better-off rather than to the main target groups. The issues underlying the levels of subsidies and their incidence have been

discussed above. Once a charge for health services, and thus a level of subsidy, has been agreed, the implications of this level of fee for the revenue of the project must be determined. A higher fee should only be imposed if the price elasticity of demand for project services is below  $-1.0$ , since if it is greater than unity, use will decline proportionately, more than the increase in price and revenue will fall. Projections for future revenue must take account of expected growth in use due to greater awareness, higher income, and other factors such as lower waiting or traveling time, plus the negative effect of a higher price. An elasticity estimate, however crude, is required for this calculation.

Projected project revenue must be compared with projected costs to establish the operating shortfall that must be covered by government funding. This can then be compared with the total government health budget; and if it appears that funds will not be available from the budget, other sources must be found. Most project calculations are at constant prices partly to avoid making explicit assumptions about inflation over a relatively long period ahead. Hence, it will be simpler to conduct fiscal impact calculations at constant prices, which will allow a comparison of future shortfalls with the existing health budgets in real terms. In relation to fiscal impact, there is no categorical criteria to apply at the decision-taking stage. What is important is that the project is financially sustainable, which presupposes that whatever level of subsidy is implied by the difference between project revenue and costs can be covered by government transfers or other sources of funding. What a sustainable level of subsidy is will vary depending upon the overall macro-economic government accounts, the health budget and the demands of other projects and agencies. Judgment will have to be exercised in this area in the light of government policy and the macroeconomic situation.

## **Project Framework Analysis**

The project framework is not an economic analysis tool but a project cycle management tool. Like in other bilateral and multilateral development organizations, it is a requirement in ADB's project preparation and processing cycle.

The project framework is useful in the design of projects and in facilitating monitoring and evaluation of project implementation and management. It has three main purposes. First, it is used to clarify and define more precisely and logically a project's objectives (goals and purposes), outputs, activities, and inputs, and to make apparent the linkages between these elements of a project's design as well as the assumptions on which they are based. Second, it is used as a participatory planning

tool as it facilitates the incorporation of a range of views from various stakeholders of the project, the beneficiaries, the implementing agencies, concerned NGOs, and other private and public sector bodies. The project framework is, therefore, both an *ex ante* project design and *ex post* evaluation tool.

The nature and usefulness of the project framework are based on the following premises: (i) projects are designed to achieve quantifiable and measurable objectives and outputs; (ii) project quality and success need to be monitored and measured by the extent to which these projected objectives and outputs are actually achieved; (iii) the projected achievement of these objectives and outputs is based on a series of hypotheses of cause and effect relationships which should be clearly explained, agreed to, and monitored; and (iv) key parties to the projects (e.g., the executing agencies, the beneficiaries, ADB, etc.) are in agreement on the project design, its underlying assumptions, and identified risks. At the project identification stage in health sector projects, overall goals and main objectives are defined. As the project processing and project quality evaluation proceeds, information on outputs including process and outcome indicators, inputs, assumptions, and risks are provided. These indicators and information later provide the basis for monitoring project implementation and evaluating the extent of project success. Those who are not familiar with the use of project framework can refer to any ADB loan or technical assistance documents.

## Health Sector Policy Reform

There is a tendency for an increased share of ADB lending to finance a program of health sector reform in a particular country rather than a specific health project. It is well known that for any sector, it is considerably more difficult to assess the impact of a program as opposed to a project loan because of the diverse range of effects generated by program lending. However in health, as in other sectors, the principles of project analysis can still be applied in discussions of program loans. Two key principles must be applied. First, it is important that health policy reform (whether, for example, in relation to the management or financing of hospitals and clinics or to the reform of the whole sector) is linked with tangible indicators of impact that can be monitored in a form of policy matrix during the process of reform. These indicators will be needed in drawing up a Program Framework (similar to a Project Framework) and progress of the reform can be monitored in relation to such indicators. Measures of health status (such as mortality and birth rates) will probably change too slowly to be useful indicators and more indirect indicators (such as patients seen,

numbers immunized, drugs available or increased participation of NGOs or private providers) relative to a baseline set before the reform may have to be applied. See the discussion of Process Indicators in page 43.

The second principle to be applied in program lending is that of cost-effectiveness which is central to an assessment of individual health projects. ADB interventions supporting policy reform must aim to use available resources as effectively as possible and hence, individual components of a health reform program must be designed with this goal in mind. For example, if the goal is to improve health sector administration and management, the planning criteria should be to achieve the maximum improvements for the minimum financial cost involved in training and restructuring. For program lending, it will often not be possible to do detailed cost-effectiveness calculations of the type described in this *Handbook* for individual projects. However, the important general point is that an effort should be made to ensure that individual components of a health program can be justified in cost-effectiveness terms.

Health sector reform in transition DMCs poses an even more demanding reform agenda due to the major social and economic changes affecting these economies. Often, reform will involve overhauling the entire health sector to introduce, for example, policy and legislative changes, institutional strengthening for better oversight and regulation, human resource development for training and international accreditation, private sector involvement in health provision, and consideration of alternative means of health finance. *Boxes 12 and 13* illustrate examples of the agenda for health policy reform program from ADB's experience in two very different situations: Papua New Guinea and Mongolia.

## Ex Post Evaluation and Monitoring

For all types of projects after completion, it is important to monitor effectiveness. This requires collecting information to re-assess the original ex-ante analysis. For all projects, it will be necessary to collect cost data to see how, in real terms, actual and projected costs differ. For health projects, success will have to be monitored by collecting information on various health outcomes. If cost-effectiveness analysis had been carried out, it would then have been based on a series of assumptions regarding the with- and without-project scenarios, and the accuracy of these could have been checked. In particular, it will be important to assess data such as the proportion of the target population reached by the project and the impact of the project on relevant health indicators. The indicators to be studied will vary between projects and between

## Box 12

**ADB Experience with Program Lending for Health Policy Reform—Papua New Guinea**

In Papua New Guinea, ADB is providing assistance to the government through a health sector development program to allow a major reform of health provision. The key objectives are to create:

- greater participation of users and local governments;
- increases in autonomy for hospitals and other key institutions;
- greater availability of drugs and medical supplies;
- better financial management of the sector, including cost-sharing arrangements with users;
- enhanced participation of non-public sector suppliers, principally NGOs and churches.

The policy reform has four main dimensions to achieve these objectives.

- (i) A shift of emphasis from urban to rural areas by allocating greater financial, staff and drug resources to local communities while, at the same time, introducing decentralization by allowing local committees to manage health facilities and to retain fee income collected from patients for re-investment in the system.
- (ii) A change in orientation from curative to preventative health services. This will involve improved outreach facilities aimed at maternal and child health, immunization programs, increased supply of safe drinking water, and education campaigns aimed at improving nutritional and health related practices.
- (iii) Reform of health care financing through improved financial planning, greater cost recovery by hospitals, promotion of health insurance, and the mobilization of community resources. In particular, the Department of Health will develop mechanisms for better expenditure monitoring and compare expenditures with health status indicators to assess the effectiveness of different activities. There is a target that user fees should cover 10 percent of hospital operating costs by the year 2000.

the level of aggregation. For a safe motherhood project, for example, there will be overall indicators (like infant and mother mortality rates, which reflect the aggregate impact of the project) as well as more specific indicators relating to particular conditions (such as the incidence of maternal hemorrhage or abortion among mothers or of measles or respiratory infections among children). The latter illness-specific information will be required if DALY or HYLG impacts are to be recalculated to reassess the original cost-effectiveness analysis.

In addition, there will be various process targets identified in the Project Framework for most health projects, such as the number of patients visiting a health

- (iv) Institutional reform aims to increase the efficiency of health delivery by setting up Health Boards at national, provincial, and local levels and by restructuring the administration of hospitals. In addition, NGO and church provision will be supported by the integration of their services into provincial systems and the basis for their financing (for example, from donors) will be formalized and made more transparent.

A Policy Matrix also sets out quantitative targets to be achieved during the implementation of the reform by March 2000. Targets are related to two main areas: health treatment and financial expenditure. For illustration, some baseline figures and their corresponding targets are set out below. These figures are the monitorable part of the reform program.

| <b>Health Treatment</b> (selected districts) | <b>baseline</b> | <b>target March 2000</b> |
|--|-----------------|--------------------------|
| Antenatal visits (coverage)                  | 68%             | 80%                      |
| Supervised delivery (coverage)               | 30%             | 50%                      |
| Measles immunization (coverage)              | 35%             | 70%                      |
| Triple antigen immunization (coverage)       | 59%             | 70%                      |
| <b>Health Expenditure</b>                    |                 |                          |
| Health/total government expenditure          | 7.7%            | 10%                      |
| Revenue collection/hospital costs            | 4%              | 10%                      |

Source: ADB. 1997. Loan 1517/1518-PNG: *Health Sector Development Program*. Manila: ADB.

clinic or the number of women receiving contraceptive advice. These are useful intermediate indicators but they do not really reveal project impact on health outcomes. For a full evaluation of a health project, it will be necessary to convert process data of this type into data on health outcomes. This latter step requires data collection on the health status of the population affected by the project; and if this is not possible, assumptions on the relation between achievement of a process target, like number of children visiting a clinic, and changes in various indicators of child health, like incidence of vitamin deficiency or diarrheal illness. This procedure of collecting or estimating data on health impacts of on-going projects is an important source of

## Box 13

**Health Policy Reform: Objectives in Mongolia**

In Mongolia, ADB is financing a major restructuring of the health sector. The main policy objectives, intermediate medium term objectives, and some illustrations of policy interventions are set out below.

| Policy objective                       | Medium term objective                        | Examples of intervention                               |
|--|--|--|
| Promotion of primary health care model | Allocate more finance to primary health care | Family group practice in all districts                 |
| Encouragement of private               | Alter legal framework sector provision       | Authority for accreditation and licensing              |
| Restructuring health facilities        | Rationalize health infrastructure            | Rationalization of hospitals                           |
| Rationalization of health personnel    | Improve training facilities                  | New job descriptions and performance-linked incentives |
| Improved finance and management        | Develop capitation payment                   | Experimental insurance fund and hospital boards        |
| Protection of poor                     | Identify target groups                       | Monitoring mechanisms for target groups                |

Source: ADB.1997. Loan 1568/1569-MON: *Health Sector Development Program*. Manila: ADB.

information not just for the evaluation of the projects concerned but also for the planning of future projects since it gives a picture of health impacts that can be expected from different types of project interventions.

## Terms of Reference

Draft terms of reference for consultants working on the economic analysis of health projects are given in Appendix 10. These are not intended to be prescriptive, but they try to cover the main areas of economic work discussed in this *Handbook*. Clearly, separate terms of reference will be required for the other professionals working in a project team.