

Booklet A1: Cost and Expenditure Analysis

This booklet explains how cost analysis can be used to improve the planning and management of SRH programmes, and describes six simple analyses. Before discussion how to undertake a cost analysis, these demonstrate how managers can best use the financial information often readily available to them. It addresses questions such as:

- ❖ Why should information on costs of essential SRH services be collected?
- ❖ How can cost information be used to help the planning and management of a programme?
- ❖ What can information on expenditure tell about the equity and efficiency of my services or programme?
- ❖ How does one analyse costs?

A1.1 Why analyse costs?

Because of the huge need for SRH services, SRH programmes are often faced with severe resource constraints. When economists refer to '**resources**', they mean everything that is needed to produce goods or services, such as **capital inputs**, labour, and also financial means. In SRH, goods are things such as condoms and contraceptive pills; services are things like HIV testing and prenatal care. Because of resource limitations, it is important that the available resources are used in the most beneficial way. To do this, programme managers need adequate information on how resources are used, and what is being achieved with them.

More specifically, SRH managers can use cost analysis to:

- estimate the funding required to extend **coverage** of antenatal care services;
- support a family planning programme and determine how to distribute condoms at the lowest cost;
- help an NGO assess whether they should provide their services using mobile clinics or health centres;
- help a non-profit facility determine whether it is actually serving the people most in need.

Example of the use of economic analysis

Cost and cost-effectiveness analyses have played a key role in the debate about how and when to integrate SRH services. Costs and value for money are often the most critical concerns for funders of SRH. Therefore, the ability to illustrate how the integration of services reduces costs and improves cost-effectiveness could get governments and donors to agree to fund services that are delivered in an integrated manner.

A1.2 Simple ways to analyse SRH costs

Analysis 1 – Is expenditure following the budget?

A good starting point is to regularly track **expenditure** against the **budget**. Managers of SRH programmes, or their accountants, have to ensure that all monies spent are

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correctly reported. Regularly monitoring expenditure is important in managing services. Imagine a programme where expenditure goes way beyond the planned budget. It would make it difficult for service providers to maintain services and ensure future funding.

It may seem simple, but apart from checking that expenditure does not exceed the budget, keeping track of how money and resources are spent (and why) is often ignored by managers and left to accountants. The regular monitoring of expenditure is one of the simplest ways for SRH managers to understand the link between the use of resources and the provision of services.

There may be several explanations for a discrepancy between what is budgeted and what is spent. Perhaps the budget has been badly prepared, or the planned distribution of resources is inadequate. For example, too much money might be allocated to the purchase of equipment and too little to its upkeep. Another explanation could be that the programme is being poorly implemented, or that resources are being wasted or used inefficiently. For example, if a large quantity of drugs is expiring and the stock needs to be replaced, it is possible that they are being badly managed. Such mismanagement can drive drugs expenditure above what is budgeted.

Once discrepancies between budget and expenditure have been identified, an examination of the **line items** or activities may reveal the root of the problem. For example, if expenditure is higher than budgeted, it is possible that too much is being spent on one item, such as salaries, while too little is being spent on others, such as drugs. This may indicate that the staff is not seeing the maximum number of patients. After careful analysis, managers can then determine how to correct this. For example, they could prepare an information and education campaign (IEC) to attract more patients.

Box A1.1 presents four very simplified situations that SRH programmes might experience. In the first situation, the activity *and* costs of an obstetric service are lower than expected. In response, the manager should address the reasons for low performance and consider whether the budget should be reduced or the level of activity increased. One point of caution: expenditure is often recorded more slowly than activities. So it is important to first determine if reporting delays are causing expenditure to appear lower than what was budgeted for a given level of activity.

Box A1.1 – Analysing activity information and expenditure
Planned activity – Outreach to provide 100 postnatal visits
Budget - US\$500

Activity	Expenditure	Possible corrective actions
Lower than expected – Only 80 postnatal visits	Lower than expected - US\$400	Examine the reasons for the lower number of postnatal visits (e.g. low demand, staffing shortages) or reduce the budget
Lower than expected – Only 80 postnatal visits	Higher than expected – \$600	Examine the reasons why costs are higher (e.g., higher transportation costs) and the activity lower than expected. Find solutions to reduce costs , increase volume of activity and/or ask for additional funds
Higher than expected – 120 postnatal visits	Higher than expected – \$600	Ask for additional funds or reduce the number of postnatal visits provided
Higher than expected – 120 postnatal visits provided	Lower than expected – \$400	Address the reasons why costs are lower than expected (e.g. is the quality of service provided as high as it can be? Are transportation or supply costs lower than expected?). Increase the number of outreach visits or reduce the budget

Analysis 2 – Are SRH priorities being met?

A second analysis is to break down programme expenditure by different services. This analysis can help programme managers establish how much money is being spent on each area of SRH and assess whether this is in line with priorities.

For example, if maternal health is considered a high priority, an analysis of costs may encourage policy-makers and planners to take action and re-direct resources. Of course, costs per patient or spending per capita are very crude indicators to determine whether an intervention is sufficiently prioritized. The cost of an intervention will be heavily influenced by the burden of disease, i.e., the number of people affected, and the cost per case of providing the intervention. Other factors that need to be looked are the effectiveness of the intervention and its technical and political feasibility.

Although this is only a simple analysis, it can be a starting point for indicating areas that require more – or less – funding. Booklet C1 discusses National Health Accounting as a way of analysing funding flow. Booklet A3 outlines cost-effectiveness analysis as a tool that links resources with outcomes. Booklet B1.4 shows how cost-effectiveness analysis can help to set priorities.

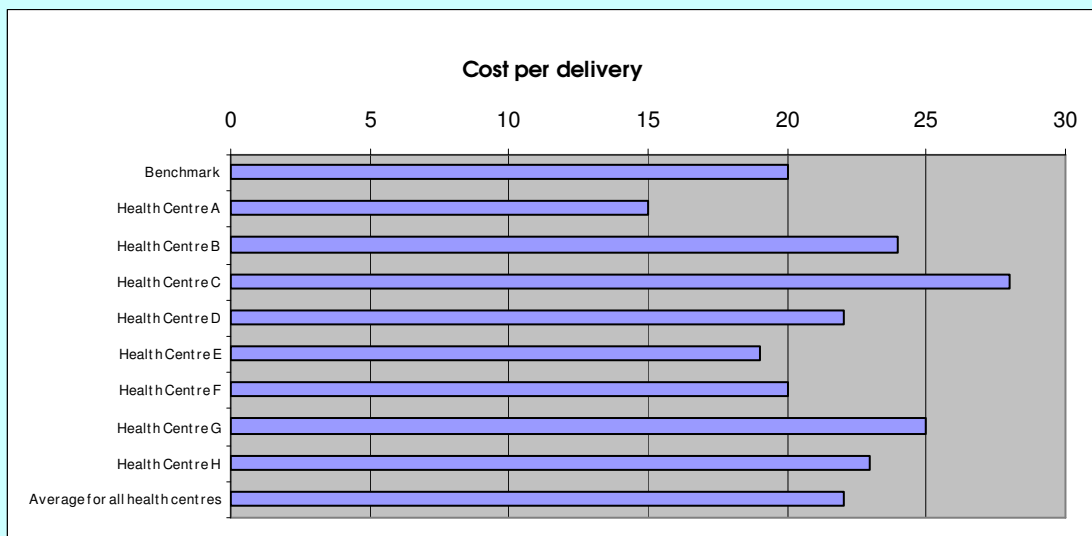
Analysis 3 – Which facilities provide SRH services at the lowest cost?

The assessment of both the quality and quantity of, for example, obstetric services is a standard part of the monitoring and evaluation of SRH clinics. Cost analysis can add to this assessment by measuring the performance of services against the resources used. For example, if one maternal and child health (MCH) clinic has a better performance in terms of safe deliveries than another MCH clinic, but both use the same resources, then the second clinic may be able to improve its performance without requiring additional resources. A comparison of costs could identify areas where the use of resources could be improved.

A basic form of cost analysis is to compare the average cost of a service between different facilities or against a benchmark cost. For example, a manager may estimate that a safe delivery should cost US\$ 20 based on a successful pilot project (see box A1.2). The costs of deliveries at different facilities can then be compared with this benchmark to assess whether they use their resources cost-efficiently (see booklet A3). Care needs to be taken to ensure that comparisons are indeed valid, in particular, with regard to the quality of services.

Box A1.2 – An example of the comparison of average costs

The graph below shows how different facilities compare against the benchmark average cost for a safe delivery. In this case health centres B, C, G, and H may need to be examined further. Health centre A also needs closer examination, because its low costs might simply imply poor quality of service rather than careful resource use.



One of the most common reasons for high average costs is the low utilization of services. For example, an MCH hospital with an occupancy rate of 50% is likely to have a considerably higher cost per patient than a hospital with a 90% occupancy rate. While both hospitals have made the same investments in equipment and personnel, in the hospital with a high occupancy rate these costs are divided amongst more patients, thus leading to lower costs per bed. Another possible explanation for cost differences is variation in clinical practices. For example, hospitals where high-cost diagnostic techniques are used, or where patients stay at the hospital rather than go home quickly after deliveries, are likely to have higher costs. If this is the case, then an assessment needs to be made of whether the extra cost improves outcomes or not (see also Booklet A3 on cost-effectiveness analysis).

Analysis 4 – Which inputs cost the most?

Examining the costs incurred for each different input (**human resources**, equipment, drugs and supplies, etc.) in a programme can highlight areas where resources are being used inefficiently. However, areas that incur the highest expenditure are not necessarily the best candidates for cost-cutting. In fact, it is possible that the money is being well spent in these areas. The analysis, therefore, also requires a comparison with benchmark expenditure or the expenditure patterns of other similar facilities.

There are no universal benchmarks on what proportion of expenditure should be allocated to each input: it depends on the services being provided. Benchmarks are therefore often set by examining the use of resources in an ideal situation, for example, in particularly well-run facilities. If, for example, an MCH clinic has determined that 50% of its budget should be spent on salaries for its staff, this is its benchmark for salary expenditure. If its salaries are higher than 50% of its total expenditure, it may indicate a problem with staff **productivity** (amongst other reasons). Alternatively, if for example less than 5% of total expenditure is spent on repair and maintenance, this may be an indication that equipment is not being properly repaired, potentially causing a reduction in the number and quality of services that can be provided.

An alternative is to compare the expenditure pattern of different facilities. For example, if two health centres provide the same number of immunizations but one of them spends more on vaccines, this may indicate a problem with vaccine wastage.

Managers may find the following questions helpful when analysing expenditure:

- ❖ What are the prices being paid for key inputs, such as drugs and supplies? Are they as low as possible?
- ❖ For high expenditure on salaries: are staff numbers appropriate for the number of beds the facility has or the number of outpatient visits? Is there a large amount of down-time? Who are the different services provided by? Could some services be provided by lower-level staff? Does the location of the facility justify higher salary levels (remote or hardship locations, high cost of living in urban areas)
- ❖ For high expenditure on medicines: are there problems with drug management? Are patients being prescribed the right drugs? Are large amounts of drugs expiring before they can be used?
- ❖ For high spending on capital (e.g. buildings, vehicles, equipment, furniture, etc.): are buildings and equipment being properly maintained? Are there differences in the cost of construction between areas?

Box A1.3 – Capital and recurrent inputs

Capital	Recurrent
Buildings	Personnel
Vehicles	Drugs and medical supplies
Medical equipment	Non-medical supplies
Furniture	Maintenance
Training (one-of training)	Training (ongoing)

The ratio of capital to recurrent expenditure is also worth examining. **Recurrent inputs** are used up and consumed within a year of purchase (e.g. drugs, labour), while **capital inputs** are items that have a useful life longer than a year (e.g. vehicles and equipment). See Box A1.3 for more examples. Sometimes recurrent expenditure does not make the best use of a programme’s capital resources. For example, a clinic might have a 50-bed facility (capital input) but not enough staff or drugs (recurrent inputs) to care for 50 patients. Or it might have two ambulances (capital input) but not enough funds to purchase fuel or make necessary repairs (recurrent inputs).

In order to assess whether recurrent financing is sufficient, economists use a tool called the 'recurrent cost coefficient'. This coefficient estimates the level of recurrent expenditure compared to the capital expenditure for a particular type of facility, say a health clinic. For example, a coefficient of 2 for primary health clinics means that the ratio between recurrent costs (e.g. drugs, salaries, repair and maintenance) and capital costs (e.g. buildings and equipment) is 2:1. There is no fixed coefficient that would be right for each facility because the recurrent financing requirements of health services can vary considerably depending on the mix of cases treated. However, the coefficient is useful when comparing relatively similar service packages or facilities.

Analysis 5 – Which population group receives the most resources?

A central goal of SRH programmes is to achieve equity or fairness in the delivery of SRH services. Expenditure analysis can provide managers with an indication of who is benefiting from the resources being spent. For example, it can demonstrate the amount that people of different income levels pay for SRH services, or how much poor people benefit from fee-exemption programmes. On the basis of this and other information, managers can then assess whether programmes reach poor people and whether further action is required.

Expenditure and cost information can reveal who is paying for SRH services and who is receiving the most SRH services. These are not necessarily the same people. For example, in many countries it has been difficult for governments to provide services in remote rural areas. People living in rural areas, who are often poorer than the national average, will have to use more expensive, private hospitals because of limited access to public hospitals. As a result, the poor people in rural areas might be paying much more for SRH services than richer people in urban areas who can access cheaper public services. An analysis of who is receiving the most resources – and thus services – would be useful here, for example, by comparing what is spent on public health per capita in rural areas versus urban areas. Depending on the results, there may be a case for a fairer distribution of resources.

Of course, expenditure per capita will only be a rough indication of inequity. It can also be difficult to interpret, as areas with higher health needs, higher prices and possibly lower income levels may require relatively high spending per capita. Nevertheless, a simple expenditure analysis would already provide a first indication of the equity of **resource allocation**.

Analysis 6 – How reliable are the sources of financing for an SRH service?

Financial sustainability means that SRH services are able to continue after external programme or project support has finished. Expenditure and cost analysis can provide an indication of the future financing requirements of services. It can help managers plan for the future by identifying the main sources of financing available for an SRH service and assessing their stability. Moreover, it can serve as the basis for designing the financing strategy for a programme, identifying, for example, the level of fees required to ensure its continued operation.

Traditionally, financial sustainability has been assessed by examining the percentage of expenditure that is funded by external sources, such as programme grants and donors. Although this remains an important aspect of analysing sustainability, it is also important to assess the extent to which all other sources of finance – such as government funding and user fees – are reliable and safeguarded for the medium term. Some sources of finance may be more reliable than others. It can be risky to rely

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on unstable sources of income for continuing, recurrent expenditure, such as salaries or drugs.

The following questions can guide such analysis:

- ❖ How are the different costs – capital and recurrent – of future plans likely to be financed?
- ❖ Which sources of finance are less reliable? How would it affect a programme if financing were stopped?
- ❖ How much do you rely on external sources of finance, such as foreign donors?
- ❖ What levels of foreign currency will be required?
- ❖ Where could additional sources of financing be found?
- ❖ How are patients paying and does this affect their use of services?
- ❖ Is it possible to reduce the costs of planned activities?

When considering the reliability of sources of financing, it is also worth examining the period of time for which the funding is committed: is it for the short-, medium- or long-term? High levels of financing committed for a relatively short time by a limited number of sources can be a cause for concern. For example, international donor funding is often only committed for a short time, making it notoriously volatile and unpredictable. It may be more sustainable and, therefore safer, to plan a budget based on financing that is committed for a long time and is part of a wider government strategy.

Summary

This booklet described six simple forms of cost and expenditure analysis. It demonstrated how, by asking straightforward questions about the use of resources by SRH programmes, managers can obtain information that will help them improve their SRH programme.

Although none of the analyses presented here are comprehensive, all can provide an indication of areas for improvement or further investigation. In this way, they form an essential part of the basic management toolkit for SRH services and programmes.