

The Manager

MANAGEMENT STRATEGIES FOR IMPROVING HEALTH AND FAMILY PLANNING SERVICES

In this Issue

<i>Understanding How Cost and Revenue Analysis Can Help Financial Sustainability</i>	2
<i>Considering the Benefits of Cost and Revenue Analyses</i>	3
<i>Looking at Cost and Revenue Issues: Three Scenarios</i>	3
<i>Making Management Decisions</i>	6
<i>How to . . . Recover Costs Using Cross-Subsidization Strategies</i>	7
<i>Using a Cost and Revenue Analysis Tool</i>	8
<i>Using the Tools to Answer Management Questions</i>	9
<i>How to . . . Answer Management Questions Using a Cost and Revenue Analysis Tool</i>	10
<i>Reviewing the Features of Three Cost and Revenue Analysis Tools</i>	17
<i>Choosing a Tool That Suits Your Needs</i>	19
<i>Working Solutions—Tanzania</i>	19
<i>Integrating Cost and Revenue Analyses into Ongoing Activities</i>	21
<i>Cost and Revenue Analyses Terms and Definitions</i>	22
<i>Obtaining the Cost and Revenue Analysis Tools</i>	22
<i>Reviewers' Corner</i>	23
<i>References</i>	23
<i>Checklist for Using Cost and Revenue Analysis Tools</i>	24

Case Scenario

ASF Begins a Cost and Revenue Analysis

Using Cost and Revenue Analysis Tools

Editor's Note

Health service providers are having to carefully manage the use of scarce resources while meeting a growing demand for services and rising expectations for quality. Conducting cost and revenue analyses can greatly increase managers' understanding of the factors that affect resource use, including staffing patterns, service mix, service practices, and procurement. The information these analyses generate helps managers consider different ways of producing services in order to reduce costs, increase revenues, or both. Conducting a cost and revenue analysis is particularly useful to organizations that are trying to meet major management challenges, such as expanding existing services, integrating new services, or working toward financial sustainability.

This issue of *The Manager* shows why a cost and revenue analysis is useful and suggests various options for increasing cost efficiency and revenue generation. The issue presents three electronic spreadsheet software tools for analyzing costs and revenues and discusses the types of decisions managers can make using these tools. The issue also presents the tools' features, data requirements, and the kinds of information they can generate.

—The Editors

The Manager

Editorial Review Board

Dr. Isaac Achwal, Family Planning Association of Kenya

Dr. Alfredo Ariñez, Pathfinder International, Bolivia

Med Bouzidi, International Planned Parenthood Federation, London

Easter Dasmariñas, JSI-RTI, Philippines

Dr. Peter Mokaya, Seventh Day Adventist/ Rural Health Services, Kenya

María Isabel Plata, PROFAMILIA, Colombia

Jewel Quallo Rosberg, Belize Family Life Association

Dr. Sin Somuny, Reproductive and Child Health Alliance, Cambodia

Dr. Enrique Suárez, The Mexican Federation of Private Health and Community Development Associations

Dr. A.B. Sulaiman, Planned Parenthood Federation of Nigeria

Sixte Zigrumugabe, CARE, Togo

Dr. Alex Zinanga, Zimbabwe National Family Planning Council

Field Advisors

Abu Sayeed, FPMD/Bangladesh

Dr. Eléonore Rabelahasa, MSH/Madagascar

Subscriptions to *The Manager* are \$15/year in North America and Western Europe; in all other areas the publication is distributed free of charge. Second-class postage application pending at Boston, MA.

Postmaster: Send address changes to: *The Manager*, Management Sciences for Health, 891 Centre Street, Boston, MA, 02130-2796 USA.

Editorial Directors

James Wolff
Janice Miller

Editor

Janice Miller

Associate Editors

Laura Lorenz
Claire Bahamon

Consulting Editors

Susanna Binzen
Ann Buxbaum
Saul Helfenbein

Desktop Publishing

Ceallaigh Reddy

Distribution

Mark Nevin
Thuy Nguyen

Internet Editions

Jennifer Rodine

The Manager (ISSN 1060-9172) is published quarterly in English, French, and Spanish by Family Planning Management Development (FPMD), a project of Management Sciences for Health. This publication does not represent official statements of policy by MSH or USAID.

Recommended citation: Management Sciences for Health. "Using Cost and Revenue Analysis Tools." *The Manager* (Boston), vol. 7, no. 2 (1998): pp. 1–24.

**Family Planning Management Development
Management Sciences for Health
891 Centre Street
Boston, Massachusetts 02130-2796 USA**

Phone: (617) 524-7766

Fax: (617) 524-1363

E-mail: fpmdpubs@msh.org

URL: <http://www.msh.org>



Published with support
from the U.S. Agency for
International Development.

Understanding How Cost and Revenue Analysis Can Help Financial Sustainability

Managers today in both the public and private sectors must determine what actions to take now to ensure the financial sustainability of their organizations in the future. Analyzing the costs involved in providing services and the sources and flow of revenues helps managers make decisions about the best use of resources and ways to recover costs. Conducted together, cost and revenue analyses help managers answer key management questions, such as:

- What portion of the organization's costs is covered by service revenues?
- How can a facility or an organization provide quality services at the lowest cost?
- What are the financial implications of changing the mix of services?

In the days before the personal computer, the tools that managers used to conduct cost and revenue analyses consisted of paper spreadsheets in which data were entered and tabulated manually. But with the widespread availability and use of computers, electronic spreadsheet tools have made cost and revenue analyses faster and simpler. Electronic spreadsheets retabulate newly input data automatically, making it easy to project future cost and revenue scenarios. They allow managers to consider the possible impact of making changes such as adding new services, creating new facilities, or changing staff utilization.

Managers can use electronic spreadsheets to look at both the clinical and the financial factors that affect cost recovery and financial sustainability. These factors include the:

- mix of services;
- staffing patterns;
- amount of time staff members spend delivering services;
- amount of time staff members spend on administrative tasks;
- use of non-staff resources (supplies, medicine, facility, etc.);
- income of a service measured against its costs;
- achievement of established performance objectives;
- sharing of revenues among different categories of service and/or among several facilities.

It is important to keep in mind that the information provided by a cost and revenue analysis is only one aspect of strategic planning. Factors such as quality, equity, the presence of alternative service providers, and client needs must also be taken into account. Managers should consider the findings from a cost and revenue analysis along with other factors when making decisions.

This issue discusses the benefits of undertaking an analysis of the costs and revenues of a facility or an organization and provides information on three spreadsheet-based tools currently available for cost and revenue analyses. It discusses how using electronic spreadsheet tools helps managers determine how their programs use resources, track sources of service revenues, improve efficiency and revenue generation, develop long-term sustainability plans, improve cost recovery, and both project and monitor the impact of management decisions.

The guest editors for this issue of *The Manager* are Dayl Donaldson, Stephen Sacca, Gerry Rosenthal, Charles Stover, William Newbrander, Dan Kraushaar, and Josh Coburn, all members of the Health Reform and Financing Program (HRFP) of Management Sciences for Health. HRFP provides technical assistance and training to countries and organizations in the areas of health sector reform and health financing, with an emphasis on equity and sustainability.

Considering the Benefits of Cost and Revenue Analyses

Cost and revenue analyses provide you with the financial and operational information needed for making good management decisions. These analyses help you to take a close look at the efficiency of your existing programs and identify changes to improve cost efficiency. Cost and revenue analyses also help you to explore the potential impact of your management decisions.

Cost and revenue analyses can help you determine:

- how to reduce costs in order to ensure the long-term viability of your organization;
- how to produce the greatest total increase in your revenues relative to your costs;
- the most cost efficient process for delivering your services.

Looking at Cost and Revenue Issues: Three Scenarios

When making decisions related to financial sustainability, you must answer the question: *What should I do now to make my organization more financially stable in the future?* The answer could be to reduce costs, to increase revenue, to consider changes in demand and in the costs of inputs, or a combination of all three.

Scenario One: To Reduce Costs

The executive officer of a non-governmental organization (NGO) has expanded his organization from one family planning clinic to 15 clinics in the past 10 years. The expansion effort relied heavily on funding from a single bilateral agency, whose funds represented 40% of the NGO's total operating budget during the ten years of growth. This primary source of funding will be eliminated early next year, and the executive officer must decide how to reduce his organization's costs. The two basic options he faces are to:

- cut back services at all clinics proportionally to reduce total costs for the organization;
- close between five and seven clinics and focus attention and resources on the remaining clinics.

The question the executive officer must answer is: *Which option will best ensure the long-term viability of the NGO and its clinics?*

continued on next page

Scenario Two: To Increase Revenue

The officer in charge of a health facility offering reproductive health services wishes to increase the revenue generated by the facility's services. Her options include:

- offering new services that will bring in new revenue;
- increasing prices of all existing services;
- increasing prices of some services;
- lowering prices of some services in order to increase their demand;
- increasing the volume of those services that produce the greatest amount of revenue compared to their costs;
- increasing demand for all or some services by initiating a marketing campaign.

The question she must answer is: *Which option will produce the greatest total increase in revenue relative to costs?*

Scenario Three: To Respond to Changes in Demand and Input Costs

The provincial directors of medical services and primary health care services were trying to budget for the coming year. Several major changes occurred during the previous year which could have a significant impact on their budget projections.

- A crisis in the financial sector led to widespread unemployment and resulted in the migration of unemployed workers back to their rural homes and extended families.
- This widespread unemployment contributed to a decline in household income and in client ability to pay for health services.
- In order to address its economic problems, the country devalued its currency, which increased the prices in local currency of imported items such as drugs and medical supplies.

The provincial directors wanted to incorporate variables such as population size, income, cost of medical inputs, and fee revenues into their projected budgetary requirements.

The questions the provincial directors must answer are: *What level of government financial support will be needed to provide health services under these new conditions? What level of fees will be required so that the facilities can recover their costs? If fees are set at cost recovery levels, what will happen to the demand for services?*

Conclusion

When you are facing these kinds of decisions, conducting a cost and revenue analysis can help you to:

- identify the cost of providing all services, as well as each individual service;
- determine the potential level of revenue for existing and new services;
- set appropriate prices;
- quantify the impact of fee changes.

Reducing costs. In Scenario One, a cost study would help the executive officer first to identify the costs of personnel and medicine, contraceptive, and clinical supplies related to providing each family planning

services in each facility. Once he has identified these costs, he can begin to consider ways to reduce them. *For example, if he is currently using doctors to insert IUDs, he could reduce his personnel cost for this*

service by having nurses (a lower-cost staff) insert them instead. Changing the task responsibilities of his nurses could also have an impact on the personnel cost structure in other ways. For example, it could allow him to change the payment basis for doctors from salary to commission, or it could allow him to share doctors among several facilities. Doing a cost analysis would help the executive officer determine the potential cost savings of changing the task responsibilities of his staff. Knowing his costs will also help him set realistic fees.

Increasing revenues. In Scenario Two, the officer in charge of a health facility could conduct a cost and revenue analysis to determine how much it costs the health facility to provide each health service, and how much money each service brings in from service revenues. For example, if she discovers that curative services are, as a group, recovering more than they cost to provide and that family planning services are being provided at a loss, she can begin to consider strategies for using the income from curative services to subsidize her family

planning services. One such strategy might be to increase the fee for curative services, for which there is strong demand, and decrease fees on some family planning services in an attempt to increase demand for them. Conducting a cost and revenue analysis would help her explore the potential positive and negative impacts of these decisions.

Responding to changes in demand and costs. In Scenario Three, conducting a cost and revenue analysis would help the provincial directors consider the dynamic factors that increase or lower consumer demand. A market analysis would help them explore how changes in the level of demand due to the migration of unemployed workers could increase their costs, and how devaluation of the national currency could decrease their costs. They could also examine the impact of changing their fee levels to look at how different fees could affect the demand for and cost of their services and to determine the point at which their fees will allow them to recover their costs, either with or without government subsidy.

Defining Cost and Revenue Analyses

Cost analysis is a study of the costs of the resources (such as personnel, supplies, and equipment) associated with implementing a project, program, service, or other activity. Analyzing costs helps you to estimate the cost of providing a single service, such as an initial health center visit, a well-baby visit, a day of hospital care, or a follow-up visit. Knowing the cost of providing a single service allows you to consider different ways of organizing or paying for your resources in order to reduce the cost for a service.

Revenue analysis is the study of the revenues (fees, donations, and grants) received from clients, external sources, or an organization's headquarters. Analyzing revenues is useful for examining the relationship between the fee you charge (if any) and the cost of providing a service. For some services, your facility may receive more revenue per service than you spend providing that service. For other services, you may receive less revenue than it costs you to provide them. Analyzing revenues also involves assessing how client demand for services will increase or decrease with changes in fees. If demand is sensitive to price changes, then an increase in fees will lower demand and the total revenue could also decrease. If client demand for services is not sensitive to price changes, then an increase in fees will not affect demand, and the total revenue will increase.

Cost and revenue analyses at their most sophisticated level analyze the demand for and the supply of services in a given area. These types of analyses don't consider a static system, but rather consider a dynamic system in which many variables (such as population size, distance from the facility, income, and level of fees) may influence each other simultaneously.

Using Cost and Revenue Analyses to Make Management Decisions

Conducting cost and revenue analyses helps you develop a baseline of programmatic and financial data for your facility, provides you with a picture of your current situation, and helps you identify needed changes to increase your program's cost efficiency and revenue generation. You will also find these analyses useful in developing strategies for cross-subsidization, or using some services or facilities to subsidize others. Once you have your baseline data, you can explore the possible impact of making changes (such as changing standard practices and adding new services or facilities), by developing "What if" scenarios.

Decisions on "What if" options and cross-subsidization strategies can have an impact both on the quality of the services you provide and on the long-term sustainability of your program or organization. Keeping quality and sustainability in mind when considering changes is an important part of your decision-making process.

Exploring "What if" Options

Conducting a cost and revenue analysis allows you to explore the impact of potential decisions by developing future scenarios. By exploring these "What if" scenarios, you can see how different decisions might affect service mix and volume, staff utilization and compensation, service pricing, and equipment costs. These projections are made by changing the data entered in the cost and revenue analysis spreadsheets and observing the new calculations that the spreadsheets provide as a result. *For example, you might want to know what the impact will be on your costs and revenues if you provide a higher volume of curative services.* To answer this question, you would enter a higher volume of curative services in your spreadsheet, which will produce a new set of cost and revenue calculations based on this new data.

Changing standard practices. The information generated by a cost and revenue analysis is very useful for making decisions related to alternative ways of producing services. This analysis helps you assess the implications of changes in standard practices, such as changing the type of staff used to deliver a service and/or changing the type, amount, and source of medicine and supplies used in delivering a service.

For most services, such as visits and treatment of acute respiratory infection, there is more than one way to provide the service. An efficient process uses the fewest resources and keeps your costs as low as possible while maintaining quality. Cost and revenue analysis spreadsheets assist you in examining the different costs related to standard practices and the relationship of these costs to each other.

Adding new services and/or new facilities. Adding new services or new service delivery sites are opportunities for increasing revenue. The type of services and/or facilities that could be added might include:

- maternity or well-baby care to family planning/reproductive health centers;
- laboratory services to small health centers;
- satellite health centers to hospitals.

Cost and revenue analyses will help you explore how adding new services or new facilities might affect your current operations. Your completed cost and revenue analysis spreadsheets will help you make a decision about adding new services by helping you to answer such questions as:

- How much will it cost to provide the new services?
- What additional resources will be required?
- Will we need more staff? If so, what kinds?
- What volume of service, at what fee, will make the new services financially viable?
- What will be the impact on the delivery and costs of our current services?

Exploring Cross-Subsidization Strategies

Conducting cost and revenue analyses can help you make decisions about using revenues from some services to cover the costs of other services that do not generate as much (or any) revenue. This approach to covering costs is called “cross-subsidization.” Cross-subsidization can help you maximize revenue from certain sources so that you can better support a mix of clients and services that meets your organization’s service objectives.

One goal in conducting a cost and revenue analysis could be to determine how much revenue your program

could make (while keeping services affordable) and to explore ways in which this revenue could support the cost of providing some services at a lower cost for clients who are unable to pay. *For example, your program might provide services such as prenatal care and immunizations at a low fee or at no charge, and charge a higher fee for those services for which demand is strong and people are willing and able to pay.*

The following box discusses three cross-subsidization strategies you can use to meet clients’ needs while improving cost recovery.

How to . . .

Recover Costs Using Cross-Subsidization Strategies

Cross-subsidization can be an important way for your organization to recover costs while at the same time offering a variety of services that meet your clients’ needs. Cross-subsidization can take many forms. Three widely used strategies are:

- **Charging more than full cost for high-demand services to subsidize other services.** You can subsidize the cost of services such as immunization campaigns, well-baby clinics, and pre- and post-natal examinations with high-demand services for which you can charge a fee that exceeds the cost of providing the products or service. An example of a high-demand product is cough syrup or other analgesics. A high-demand service may be doctor visits for curative care. Using high-demand products or services to subsidize others allows you to provide services that benefit the community (immunizations, for example) but for which you cannot usually charge a fee that recovers your costs.
- **Increasing the volume of high-revenue services to subsidize others.** Some high-revenue services such as laboratory services typically recover more revenue than they cost to provide. You can use these high-revenue services to subsidize entire categories of services, such as family planning, for which you cannot charge high enough fees to recover the cost you incur in providing the service.
- **Using some facilities to subsidize others.** If your organization has facilities in both higher-income and poorer neighborhoods, you may find that increasing revenues at facilities that serve higher-income groups can help you subsidize facilities in poorer neighborhoods. *For example, in higher-income neighborhoods you might be able to increase your income by providing additional services (for instance, dental services) in the facilities they use.* Or you might provide the same services at every facility but charge a higher fee in the higher-income neighborhood.

Using a Cost and Revenue Analysis Tool

To conduct cost and revenue analyses, managers usually use spreadsheet-based tools. A spreadsheet is a large grid that helps organize the lists of the financial data and other information needed for your analysis. Formulas embedded in the cells of the grid tabulate the data, allowing you to analyze the data and make calculations and projections.

Looking at three useful tools. This section presents three spreadsheet tools you can use to conduct cost and revenue analyses. For each tool, the discussion presents the:

- questions you can answer using the tool;
- hardware and software requirements;
- time required to conduct an analysis;
- data and input requirements;
- major features.

Following are brief descriptions of three tools that are available for conducting cost and revenue analyses.

Cost-Analysis Methodology for Clinic-Based Family Planning Methods. Financed by AVSC International, the Cost-Analysis Methodology was developed to help managers identify the costs related to clinic-based family planning services based on service costs, including staff and supply costs. It can help facilities determine how to set fees for services, negotiate the costs of subsidies, and determine the costs of various staffing patterns. It has been used in Egypt, Kenya, Mexico, Russia, and Turkey. The Cost-Analysis Methodology has three worksheets: one for calculating the staff time spent delivering each service; one for calculating the cost per minute of staff time; and one for calculating the costs for the staff time, clinical supplies, medicines, contraceptives, and laboratory costs for each service.

Cost and Revenue Analysis Tool (CORE). Developed by Management Sciences for Health, CORE helps institutions analyze how costs and revenues are affected by changes in variables such as prices, staff utilization, service volume, and service

mix. The model was developed with non-governmental organizations (NGOs) in Guatemala, Mexico, and Tanzania, and the tool has been used by NGOs in Bangladesh, Jordan, Nepal, and New York City. CORE has three spreadsheets: the Service Practices Worksheets, a Facility Spreadsheet, and an Organization Spreadsheet.

The Service Practices Worksheets calculate the unit cost of medicines, contraceptives, and clinical supplies used and the personnel time spent per service. The Facility Spreadsheet uses data on fixed costs, variable costs, and revenues to present a comprehensive view of the utilization of personnel, volume of services provided by an individual facility, cost per service, and the revenue and cost recovery per service. The Organization Spreadsheet allows managers to compare information from a number of facilities.

A Supply-Demand Model of Health Care Financing with an Application to Zaire: A Training Tool. Financed by the Economic Development Institute (EDI) of the World Bank, the Supply-Demand Model helps organizations explore how the financing of a typical rural health facility and the demand for its services would respond to changes in population size, distribution of the population around the health center, population income, and input costs. The services included in the tool are curative care, delivery care, prenatal care, preschool care, and chronic care. The tool requires that you set some parameters for demographic and epidemiological variables. Based on the parameters you set and the level of government subsidy and/or insurance coverage, the tool estimates demand, revenue, costs, profit, and the level at which fees will recover costs.

The Supply-Demand Model has been used in the former Zaire (now the Democratic Republic of Congo), Burkina Faso, Côte d'Ivoire, and Niger. The tool consists of summary input and output tables, and 10 data input spreadsheets, which are modeled on the geography and economy of the former Zaire. The input spreadsheets can be adapted to include the geographical and economic characteristics of the area you are analyzing.

Using the Tools to Answer Management Questions

One of your responsibilities as a manager is to know what kind of information you need to get from a cost and revenue analysis. In order to get the right answers,

you need to ask the right questions. Before selecting which tool to use, you should identify the types of questions that your program needs to address. The following table lists the types of questions that each tool is most suited to answer.

Types of Questions the Tools Address	
Tool	Management Questions
Cost-Analysis Methodology for Clinic-Based Family Planning Methods	<ul style="list-style-type: none"> • What subsidies should we negotiate? • What will be the cost consequences of various staffing patterns (for instance, having nurses instead of physicians insert IUDs)? • What are the costs implications of the different ways of providing a service (for instance, the cost of minilap vs. the cost of laparoscopy)? • What will be the cost of improving the quality of service? • What is the cost per Couple-Year of Protection (CYP) at our facility?
Cost and Revenue Analysis Tool (CORE)	<ul style="list-style-type: none"> • What portion of our costs is covered by service revenues? • How much time does our staff spend providing services and what is the cost of that time? • How much of our total costs is due to specific inputs (for instance, personnel, facility, utilities, marketing, equipment)? • How much of our total revenue is due to specific services? • Which services or categories of services are generating income surpluses and which are producing losses? • Which facilities are generating revenues, and which are producing losses? • What volume of which services can we provide on a fixed budget?
A Supply-Demand Model of Health Care Financing with an Application to Zaire: A Training Tool	<ul style="list-style-type: none"> • What will be the impact on our costs and revenues of changes in our prices or our competitors' prices? • What cross-subsidization strategies will work for our organization? • What will be the impact of increases or decreases in demand for our services? • Can we set prices based on the income of clients? • Can we set prices based on the distance of the client from the service center? • What will be the impact of changes in insurance enrollment and premiums? • What will be the impact of increasing the insurance co-payment? • What will be the impact of increasing the volume of free services provided? • What impact will currency devaluation have on costs and revenues? • What impact will changes in population distribution have on demand for our services?

Answer Management Questions Using a Cost and Revenue Analysis Tool

Answering management questions using a cost and revenue analysis tool provides you with quantitative information that you can use along with other information to make management decisions. The following pages present three management questions and illustrate for each question how a cost and revenue analysis tool could help you look at some options for reducing costs and/or increasing revenues. For each question posed, the discussion:

- highlights the current situation at a sample facility;
- provides a sample spreadsheet showing the costs and/or revenues related to the current situation;
- presents a sample spreadsheet showing the result of making a potential change (by trying a “What if” scenario).

Although each of the three tools presented in this issue employs several spreadsheets, only one spreadsheet from each tool has been used to answer each question.

Question 1: What are the cost implications of having nurses provide IUD insertion services instead of physicians?

In this sample health facility, the four different types of staff now involved in delivering the family planning service “IUD insertion” are: receptionist, counselor, nurse, and physician. The facility would like to explore the impact on the costs of using nurses, instead of physicians to perform the physical examination and insert the IUD. They have chosen to use the Cost-Analysis Methodology tool to determine the cost of staff time spent delivering this service, and explore a possible future scenario.

To determine the cost of staff time in providing this service, you would enter data in the tool’s worksheet on the types of staff who provide this service, the time spent by each type of staff on this service, and the cost per minute for each type of staff in providing the service. The worksheet then calculates the total cost for the service for each type of staff (Column D), and the total staff costs for the service. The sample spreadsheet on the facing page shows that:

- the total cost of the direct staff time when a physician performs the physical examination and inserts the IUD is \$9.65;
- the overall cost per minute is \$0.42.

Cost-Analysis Methodology Calculation of Method-Specific Costs			
Name of Method:		<u>Interval IUD</u>	
I. DIRECT STAFF TIME			
A	B	C	D
Staff Position	Time Spent	Cost per Minute	Total Cost per Client
Receptionist	10	0.04	0.4
Counselor	20	0.07	1.4
Nurse	35	0.11	3.85
Physician	20	0.2	4
TOTAL DIRECT STAFF TIME	85	0.42	9.65

The nurse spends 35 minutes and the physician 20 minutes on this service.

The overall cost per minute for direct staff time is \$0.42.

The total cost of direct staff time for this service is \$9.65.

To explore the cost implications of providing this service a different way, you might ask “What will my staff costs be if a nurse, instead of a physician, performs the physical examination and inserts the IUD?” To find the answer, you would adjust the data in the spreadsheet as follows:

- eliminate the staff type “physician” from the staff list in Column A;
- eliminate the time and cost per minute for the physician from Columns B and C;
- add the physician’s minutes to the time of the staff type “nurse” (in Column B). (For this example, it is assumed that the nurse would take the same amount of time as the physician to perform the same activities.)

The worksheet then recalculates the total cost in Column D. As shown below, in this scenario the cost of direct staff time for this service would be \$7.85 (instead of the previous \$9.65), and the overall cost per minute would be \$0.22 (instead of \$0.42).

“What if” Scenario: Cost implications of having a nurse, instead of a physician, perform the physical examination and insert the IUD

Cost-Analysis Methodology Calculation of Method-Specific Costs			
Name of Method:		<u>Interval IUD</u>	
I. DIRECT STAFF TIME			
A	B	C	D
Staff Position	Time Spent	Cost per Minute	Total Cost per Client
Receptionist	10	0.04	0.4
Counselor	20	0.07	1.4
Nurse	55	0.11	6.05
TOTAL DIRECT STAFF TIME	85	0.22	7.85

The time spent by the nurse increases to 55 minutes, and her total cost per client increases to \$6.05.

Using a nurse instead of a physician to perform the physical examination and insert the IUD reduces the cost per minute for direct staff time to \$0.22 and the overall cost to \$7.85.

continued on next page

Question 2: “Which categories of services are generating income surpluses and which are producing losses?”

This sample facility offers a broad range of services, including maternal and child health care, family planning, and curative services. The facility would like to determine the level of cost recovery for each category of services, in order to make informed decisions on cost recovery strategies for the facility. They have chosen CORE to identify their current cost and revenue situation and explore a future scenario.

The tool takes data pertaining to the volume of services, the fixed and variable costs for each service, support costs, staff time, and revenue and calculates results that appear in the summary spreadsheet, Section A. For this example, the volume of the curative services “Medical Visit: Malaria” and “Laboratory Services: Blood Slide” is 8,000 each per year. (Data on service volume is entered in a separate section of the spreadsheet.)

As seen in the spreadsheet below:

- curative services are recovering 212% of their costs;
- MCH/obstetric services are recovering 130% of costs;
- family planning services are recovering 15% of costs;
- cost recovery for the facility overall is 85%.

These percentages indicate that curative and MCH/obstetric services are generating income surpluses and family planning services are producing losses.

To explore

CORE					CURATIVE SERVICES			
A SUMMARY OF KEY INFORMATION					TOTAL	MEDICAL VISIT: MALARIA	MEDICAL VISIT: DIARRHEA	LABORATORY SERVICES: BLOOD SLIDE
A 23 REVENUE AND COST RECOVERY FOR SERVICE CATEGORIES								
FAMILY PLANNING SERVICES								
A	24	Total net revenue	Subtotal of services by category (D9)		33,300,000			
A	25	Total variable, fixed, and support costs	Subtotal of services by category (C27)		228,375,029			
A	26	Total surplus/loss	(A24-A25)	(A24-A25)	-195,075,029			
A	27	Percentage of costs recovered	(A24/A25)	(A24/A25)	15%			
MCH/OBSTETRIC SERVICES								
A	28	Total net revenue	Subtotal of services by category (D9)		166,360,000			
A	29	Total variable, fixed, and support costs	Subtotal of services by category (C27)		127,926,569			
A	30	Total surplus/loss	(A28-A29)	(A28-A29)	38,433,431			
A	31	Percentage of costs recovered	(A28/A29)	(A28/A29)	130%			
CURATIVE SERVICES								
A	32	Total net revenue	Subtotal of services by category (D9)		170,760,000	102,960,000	19,800,000	48,000,000
A	33	Total variable, fixed, and support costs	Subtotal of services by category (C27)		80,657,179	53,161,063	13,471,137	14,024,980
A	34	Total surplus/loss	(A32-A33)	(A32-A33)	90,102,821	49,798,937	6,328,863	33,975,020
A	35	Percentage of costs recovered	(A32/A33)	(A32/A33)	212%	194%	147%	342%
A 36 TOTAL REVENUE AND COST RECOVERY FOR THE FACILITY								
A	37	Total net revenue	Total of service columns (D9)		370,420,000	102,960,000	19,800,000	48,000,000
A	38	Total variable, fixed, and support costs	Total of service columns (C27)		436,958,778	53,161,063	13,471,137	14,024,980
A	39	Total surplus/loss	(A37-A38)	(A37-A38)	-66,538,778	49,798,937	6,328,863	33,975,020
A	40	Percentage of costs recovered	(A37/A38)	(A37/A38)	85%	194%	147%	342%

Family planning services are recovering 15% of costs, MCH/obstetric 130%, and curative 212%.

The overall cost recovery rate for the facility is 85%.

how increasing service volume would affect the facility's cost recovery rate, you could ask a "What if" question: "What will happen to the cost recovery rate if I increase the volume of curative services?" To answer this question, you would increase the volume of these two services. For this example, in a separate section, the volume of each service has been increased by 2,000 (from 8,000 to 10,000).

The spreadsheet below presents the results of these changes. The rate of cost recovery has increased for

- curative services from 212% to 221%;
- the facility from 84% to 93%.

"What if" Scenario: The impact on cost recovery of increasing the volume of two curative services (from 8,000 to 10,000 each)

CORE					CURATIVE SERVICES			
					TOTAL	MEDICAL VISIT: MALARIA	MEDICAL VISIT: DIARRHEA	LABORATORY SERVICES: BLOOD SLIDE
A SUMMARY OF KEY INFORMATION								
A 23 REVENUE AND COST RECOVERY FOR SERVICE CATEGORIES								
FAMILY PLANNING SERVICES								
A	24	Total net revenue	Subtotal of services by category	(D9)	33,300,000			
A	25	Total variable, fixed, and support costs	Subtotal of services by category	(C27)	221,444,569			
A	26	Total surplus/loss	(A24-A25)	(A24-A25)	-188,144,569			
A	27	Percentage of costs recovered	(A24/A25)	(A24/A25)	15%			
MCH/OBSTETRIC SERVICES								
A	28	Total net revenue	Subtotal of services by category	(D9)	166,360,000			
A	29	Total variable, fixed, and support costs	Subtotal of services by category	(C27)	124,018,026			
A	30	Total surplus/loss	(A28-A29)	(A28-A29)	42,341,974			
A	31	Percentage of costs recovered	(A28/A29)	(A28/A29)	134%			
CURATIVE SERVICES								
A	32	Total net revenue	Subtotal of services by category	(D9)	208,500,000	128,700,000	19,800,000	60,000,000
A	33	Total variable, fixed, and support costs	Subtotal of services by category	(C27)	94,302,520	64,254,083	13,045,646	17,002,791
A	34	Total surplus/loss	(A32-A33)	(A32-A33)	114,197,480	64,445,917	6,754,354	42,997,209
A	35	Percentage of costs recovered	(A32/A33)	(A32/A33)	221%	200%	152%	353%
A 36 TOTAL REVENUE AND COST RECOVERY FOR THE FACILITY								
A	37	Total net revenue	Total of service columns	(D9)	408,160,000	128,700,000	19,800,000	60,000,000
A	38	Total variable, fixed, and support costs	Total of service columns	(C27)	439,765,114	64,254,083	13,045,646	17,002,791
A	39	Total surplus/loss	(A37-A38)	(A37-A38)	-31,605,114	64,445,917	6,754,354	42,997,209
A	40	Percentage of costs recovered	(A37/A38)	(A37/A38)	93%	200%	152%	353%

Increasing the volume of two curative services from 8,000 to 10,000 each, increases the cost recovery rate for curative services to 221%.

Under this scenario, the cost recovery rate for the facility overall increases to 93%.

If increasing the volume of these two curative services is a feasible cost recovery strategy, then you could begin to consider ways to increase demand (and thus volume) for these services. You could also continue to use the tool to explore other "What if" scenarios for cost recovery, such as What will happen to the cost recovery rate if I:

- use lower-cost staff to deliver some services?
- pay my more expensive staff on a commission basis instead of a salary basis?
- share my more expensive staff among two or more facilities?
- raise some of my fees?
- add new laboratory services?

continued on next page

Question 3: What will be the impact of increasing the volume of free services?

A sample rural health center has determined that a sizeable percentage of its catchment population has not been using the center's services. The facility would like to reach more people, and they are considering increasing the volume of free services they provide. They have decided to use the Supply-Demand Model to determine their current cost and revenue situation and explore the potential impact on their costs and revenues of increasing the volume of free services they provide from 5% to 10%.

As shown in the spreadsheet below, the tool's spreadsheet has calculated that, when providing free services to 5% of their clients, the health center's monthly revenue is:

- Z229,000 from services;
- Z300,000 from drugs;
- Z529,000 in total.

The center's monthly expenses are:

- Z205,000 for personnel;
- Z370,000 for drugs;
- Z31,000 for other costs;
- Z606,000 in total.

Supply-Demand Model (All Information is Monthly)											
	New Cases			Total Visits			% market				
	Non-insured	Insured	Total	Non-insured	Insured	Total	HC				
Curative Care	505	101	606	1285	437	1722	68%				
Delivery Care	23	3	26	---	---	---	78%				
Pre-natal Care	13	2	15	124	16	140	72%				
Pre-school Care	14	2	16	237	30	267	72%				
Chronic Care	0	0	0	27	4	31	67%				
000s Zaires											
(1) Revenue	Services	229		HC Utilization Rates							
	Drugs	300	528								
(2) Expenses	Personnel	205		Curative Care		17%		30%			
	Drugs	370				Delivery Care		64%		82%	
	Other	31	605			Pre-natal Care		37%		43%	
(3) Profit [(1)-(2)]			(77)	Pre-school Care		41%		47%			
(4) Supervision Expenses		23		Chronic Care		36%		44%			
(5) Depreciation		79									
(6) Profit [(3)-(4)-(5)]			(178)								

Monthly revenue from services is Z229,000 and from drugs Z300,000. Total monthly revenue is Z529,000.

Monthly expenses for personnel are Z205,000, for drugs Z370,000, and for other costs Z31,000. Total monthly expenses are Z606,000.

In exploring the possible impact of increasing the percentage of free services provided from 5% to 10%, first increase the percent of free services provided to 10% and then look at the impact in the spreadsheet (below). Based on this new data, the spreadsheet calculates that:

- revenue from services decreases to Z223,000;
- revenue from drugs decreases to Z283,000;
- total revenue decreases to Z506,000;
- expenses remains the same.

Thus, the spreadsheet shows that in order to finance this more generous policy of providing free services, the health center would have to receive additional monthly revenue of Z22,000, reduce expenses by Z22,000, or some combination of the two.

“What if” Scenario: Revenue implications of providing free services to 10% of clients

Basic Scenario: Output Spreadsheet (All Information is Monthly)									
	New Cases			Total Visits			% market		
	Non-insured	Insured	Total	Non-insured	Insured	Total	HC		
Curative Care	505	101	606	1285	437	1722	68%		
Delivery Care	23	3	26	---	---	---	78%		
Pre-natal Care	13	2	15	124	16	140	72%		
Pre-school Care	14	2	16	237	30	267	72%		
Chronic Care	0	0	0	27	4	31	67%		
000s Zaires									
(1) Revenue	Services	223						HC Utilization Rates	
	Drugs	283							
(2) Expenses		Personnel	205					Non-insured	Insured
		Drugs	370						
		Other	30					Curative Care	17%
(3) Profit [(1)-(2)]			(99)	Delivery Care	64%	82%			
(4) Supervision Expenses			22	Pre-natal Care	37%	43%			
(5) Depreciation			79	Pre-school Care	41%	47%			
(6) Profit [(3)-(4)-(5)]			(200)	Chronic Care	36%	44%			

Monthly revenue from services decreases to Z223,000 and from drugs to Z283,000. Total monthly revenue decreases to Z506,000.

Monthly expenses would remain the same.

You could also use the tool to begin to consider ways of increasing revenue. Some other scenarios you could explore are:

- What will be the impact on revenues if I increase fees for paying clients?
- What will be the impact on revenues and costs if I keep the same fees but increase the number of paying clients?
- What will be the impact on utilization rates if I increase fees?

Forming a multi-disciplinary team. One of the keys to using cost and revenue analysis tools successfully is to create a multi-disciplinary team, with members from all of your organization's management areas, to conduct your analysis. When creating your team, be sure to include staff from executive management, service delivery, finance, marketing, human resources, and procurement.

Once you have formed your team, inform your entire staff of the initiative you are undertaking, and explain the importance of their participation in this process. Involving your managers and staff will make it easier to collect the necessary data and interpret the analysis results. It will also encourage the managers and staff in your organization to use the new information to improve their job performance and participate in making any programmatic changes.

Reviewing the Tools' Features

All three of these tools have features and requirements you should consider before selecting a tool. These include the computer hardware and software requirements, the time needed to use the tool, and the input data requirements.

Looking at the software required. Two factors that are important to consider in choosing which tool will best meet your needs are your computer and software resources and staff experience in using electronic spreadsheets.

It is important to note, however, that you can successfully use these tools without having a computer at every facility you are analyzing. Access to just one computer may be enough for your organization to get started using a cost and revenue analysis tool, even when you are conducting an analysis at several facilities at once. You and your team can gather the required data on-site, enter it into a computer elsewhere, and print out hard copies of the spreadsheets for review and discussion. Your staff will find that using these printed copies provides them with the information they need for making decisions. Becoming acquainted with printed spreadsheets, first, can make it easier for your staff to develop spreadsheet software skills when additional computers are available.

Considering the time required. For many managers, time is a critical resource. The time required to carry out an analysis using one of these tools depends on the:

- training and experience of the person (or people) doing the analysis;
- number of facilities to be studied;
- availability of the necessary data.

You will need more time than indicated in the following table to complete the analysis if your staff need training, you are analyzing several facilities, or the necessary data are not readily available.

Gathering data to use the tools. The most challenging part of conducting this type of analysis is gathering and entering the data required for the analysis. Taking care in gathering the necessary data is an important task, since only by entering complete, accurate, up-to-date data in your spreadsheets will you get realistic, useful information. Once you have completed the initial data-gathering task, using and updating the spreadsheets is relatively simple.

The task of gathering information for these three tools varies considerably. For both the Cost-Analysis Methodology and CORE, data are gathered at the clinic level, using records and observation, and through conversations with service delivery staff. For the Supply-Demand Model, your sources of data are more varied, as you will require data on catchment population size and distribution, the epidemiological profile and income of the catchment population, and information on other providers (competitors) near the facility.

All three of the spreadsheet tools reviewed in this issue base the cost for personnel involved in providing a service on the amount of time each person spends in contact with the client for each service activity. Resources explaining how to estimate the amount of time a staff member spends providing services include the COPE methodology developed by AVSC International and the Service Practices Worksheets in the CORE User's Guide (see references on page 23).

Reviewing the Features of Three Cost and Revenue Analysis Tools

Tool	Description	Required Resources	
		Software	Time
<p>Cost-Analysis Methodology for Clinic-Based Family Planning Methods</p>	<ul style="list-style-type: none"> • Helps managers set prices for clinic-based family planning services based on service delivery costs. • Consists of a user's manual and three electronic worksheets. 	Lotus 1-2-3, V3.1 (MS-DOS version)	Approximately one person-week per facility.
<p>Cost and Revenue Analysis Tool (CORE)</p> <ul style="list-style-type: none"> • Helps 	<p>institutions analyze their existing costs and revenues and how they would vary according to changes in variables such as prices, staff utilization, service volume, and service mix.</p> <ul style="list-style-type: none"> • Consists of a User's Guide and three linked electronic spreadsheets. 	Microsoft® Excel V5.0 or higher	Approximately two person-weeks per facility. A Supply-
<p>Demand Model of Health Care Financing with an Application to Zaire: A Training Tool</p> <ul style="list-style-type: none"> • Helps 	<p>organizations explore how the financing of a typical rural health center and the demand for its services would respond to demographic and epidemiological changes in the client population.</p> <ul style="list-style-type: none"> • Consists of a user's manual, summary input and output tables, and 10 data parameter input spreadsheets. <p>Lotus V2.1 or higher (MS-DOS version)</p>	Approximately one person-month per	<p>facility.</p> <ul style="list-style-type: none"> • Staff salaries and benefits • Time allocation

Reviewing the Features of Three Cost and Revenue Analysis Tools

Tool	Required Inputs	Features
Cost-Analysis Methodology for Clinic-Based Family Planning Methods	<ul style="list-style-type: none"> • of staff per family planning method • Costs of medicines, contraceptives, and laboratory supplies used per clinic-based family planning method • Number of days worked in a year • Types of staff involved in delivering each family planning method 	<ul style="list-style-type: none"> • Focuses on fixed and variable costs directly related to providing services. • Calculates direct costs by collecting data on 1) the time personnel spend on a procedure and 2) the amount of medicines, and clinical and laboratory supplies used. • Provides an annex with lists of medicines and clinical supplies needed for different methods and steps to provide quality services. • Identifies the costs of the human resources, clinical and laboratory supplies, medicines, and contraceptives for each service activity.
Cost and Revenue Analysis Tool (CORE)	<ul style="list-style-type: none"> • Fixed program costs, headquarters costs, depreciation of equipment, and waivers • Volume of services • List of services and service categories • Compensation (salaries, commissions, benefits) for all personnel • Direct service time of each type of personnel • Cost of medicines, contraceptives, and laboratory supplies used per service • List of current fees for services 	<ul style="list-style-type: none"> • Considers all the services provided. • Calculates direct costs by collecting data on 1) the time personnel spend on a procedure and 2) the amount of medicines, and clinical and laboratory supplies used. • Estimates the percent of time that each type of personnel spends on direct service delivery. • Allocates operating costs and a share of headquarters costs to each service. • Includes revenue.
A Supply-Demand Model of Health Care Financing with an Application to Zaire: A Training Tool	<ul style="list-style-type: none"> • Minutes spent to provide each service • Monthly salary and benefits of all personnel • Variable costs for each service • Fees and insurance co-payments • Investments and their useful life • Population residing within different distances from health center • Household income in catchment area • Distance from health center to competitors • Percent of population that pays fees, has insurance, or receives services for free 	<ul style="list-style-type: none"> • Analyzes five services: curative care, delivery care, prenatal care, preschool care, and chronic care. • Estimates direct, variable costs per service based on 1) utilization, 2) time spent delivering services, and 3) costs of medicines, clinical, and laboratory supplies used. • Estimates demand for services based on the population size and distribution, epidemiological profile, income, and competition from other providers. • Considers insurance and devaluation.

Choosing a Tool That Suits Your Needs

All three tools presented in this issue allow you to develop future service, cost, and revenue scenarios that help you realistically explore the consequences of possible decisions without having to actually implement the changes considered. Yet each tool has particular advantages, depending on the goal of your analysis.

Focusing on direct costs of clinical services.

AVSC's Cost-Analysis Methodology is the simplest and most direct tool to use, requiring approximately one person-week per facility. This tool is most appropriate if you are interested in determining the direct costs of clinic-based family planning services, including the cost of personnel, clinical supplies, medicines, contraceptives, and laboratory supplies. Direct costs include the cost of personnel, supplies, and equipment used in providing services and do not include headquarters' or facility costs (indirect, or operating costs). This tool has been used primarily by public-sector programs, for which the start-up and headquarters' costs can be difficult to obtain.

Developing fixed costs, variable costs, and revenues for a multi-service or multi-center program. CORE can help you identify what fees to charge if you want to recover costs using revenues. It can help you identify the changes in service mix or staffing patterns that could make your program more financially sustainable. If you manage a multi-service, multi-center program and you are facing the possibility of losing your external funding, CORE can help you decide how to cover your fixed and variable costs with your revenues.

Looking at the financial sustainability of a set of health centers in a specified demographic and economic context. The Supply-Demand Model is most suitable for your analytical needs if you wish to look at the financial sustainability of a typical health center in an area whose population has different characteristics, where insurance is available, where devaluations are frequent, or where competition is an important concern.

Working Solutions—Tanzania

Improving Sustainability Through a Cost and Revenue Analysis

The following Working Solution from Tanzania provides an in-depth example of the benefits of using a tool to conduct a cost and revenue analysis. It presents an NGO's experience with CORE to improve the cost recovery and operating efficiency of its existing facilities and plan for expansion.

Several years ago, Marie Stopes Tanzania, a key provider of reproductive health and curative services especially for poorer Tanzanians, began to prepare for possible cuts in external funding. Their strategic planning process identified a two-step strategy for achieving financial sustainability:

- to make each of its existing seven clinics a high-volume, low-cost provider of a full range of health services;
- to expand the number of clinics from seven to 21 by the year 2000.

To implement this strategy, Marie Stopes Tanzania, with assistance from Management Sciences for Health, began using CORE in 1997 to examine the financial situation of each of its clinics and identify ways to increase their operating efficiency and cost recovery. Marie Stopes Tanzania has since used CORE to make decisions on factors related to opening new facilities, including the:

- type of services to offer;
- projected volume of services;
- human resource requirements;
- fixed cost requirements;
- level of fees to charge.

continued on next page

Increasing Operating Efficiency

By analyzing its costs and revenues, Marie Stopes Tanzania gained knowledge that led managers to take steps that have improved the operating efficiency of their clinics—eliminating unnecessary costs, improving budgeting, developing efficient standard practices, and increasing staff utilization.

Eliminating unnecessary costs. In determining the cost of clinical supplies per service, the manager at one clinic found that unused stocks of medicines and supplies were a major source of waste. She reduced these costly overstocks by using the tool to better project service volume and more accurately project her clinical supply requirements.

Improving budgeting. Before conducting a cost and revenue analysis, clinic managers had not apportioned fixed operating costs among services when developing their annual budgets. After using the tool, several clinic managers were surprised at the high level of their fixed operating costs. They have since reduced their fixed operating cost budget by as much as 40 percent and are planning to monitor their budgets to find additional savings. Now they closely monitor the quarterly expenditure statements they receive from the head office, to observe the impact of their efforts to achieve cost efficiency and to compare costs with colleagues from other clinics.

Developing efficient standard practices. In building the database for the analysis, clinic staff developed and documented efficient standard practices for each service they offer. Through this process, clinic staff gained a shared understanding of how services are best delivered and the costs associated with each service input. As a result, trained nursing staff have assumed responsibility for certain services, such as NORPLANT® insertion, that were being provided by doctors and medical assistants at a much higher cost.

Increasing staff utilization. In reviewing their completed spreadsheets, clinic managers saw that doctors were spending, on average, less than 25 percent of their time on direct patient care. To increase the utilization of these expensive staff, managers are now sharing the doctor's time between two or more clinics. They also considered other steps to increase the productivity of different staff:

- reducing overall staffing levels;
- assigning different staff categories to perform certain services;
- introducing multi-tasking for some staff;
- increasing the length of a shift;
- devoting more staff time to outreach and promotional activities.

Improving Cost Recovery

Clinic managers used the analysis to examine the mix of services they offered in light of such programmatic and financial goals as cost recovery and sustainability. They discovered that curative and laboratory services, which represent a modest proportion of their total services, are an important source of income. At the same time, they found that other services important to their mission, such as family planning, operate at a loss. In one clinic, MCH/obstetrics services represented 13% of the total service mix and 12% of the total unit costs, but they recovered 200% of their costs! Family planning on the other hand was recovering less than 50% of its costs. Keeping this information in mind, clinic managers identified important options for recovering more of their costs including:

- promoting profitable services in communities with high unmet demand for these services in order to increase the number of clients using these services and to cross-subsidize important but unprofitable services, such as family planning;
- discontinuing services that had very low demand in order to free up staff time for providing high-volume services and to increase the quality of these services;
- changing service fees to better reflect actual service costs.

Planning for the Future

Marie Stopes Tanzania is now working to improve its Management Information System and link it with CORE. It is also investigating supply management software programs that can be linked to CORE to improve procurement, logistics, and storage of medicines, contraceptives, and clinical supplies. So far, Marie Stopes Tanzania has been using CORE on the computers at its headquarters, and printing out hard copies of the spreadsheets for the managers to work with in their clinics. Now that the staff are familiar with the spreadsheets and with analyzing costs and revenues, Marie Stopes Tanzania is procuring battery-powered laptop computers, one for each cluster of clinics.

Enhancing sustainability through well-planned expansion. Marie Stopes Tanzania used the information generated from the analysis to convince its external funding sources to support a slower, more manageable pace of expansion. As Marie Stopes Tanzania expands its number of clinics, it is using the tool to help develop reliable service delivery and financial plans to guide the launch of each new clinic. One plan is to balance the start-up of rural, lower-income clinics with the start-up of urban, high-income clinics. This strategy is helping Marie Stopes Tanzania use its organizational expansion to enhance its sustainability.

Integrating Cost and Revenue Analyses into Ongoing Activities

Analyzing your costs and revenues on a regular basis will generate thought-provoking questions about costs, revenues, and cost recovery and will help you find answers to those questions. The analyses can also provide a common framework for management discussions among your clinical staff, managers, and funding sources so that together you can develop cost recovery strategies that contribute to quality and sustainability of your services.

Once you have conducted a cost and revenue analysis and have objective data on your costs, revenues, and cost recovery, you can use the information to maintain or improve quality and provide more cost-efficient services. Finally, by using your cost and revenue analysis tool to conduct periodic updates you will be able to see whether your decisions have indeed had the desired impact. With regular use, cost and revenue analysis tools will help you continue to evaluate and refine your long-term strategies for improving management and increase the sustainability of your organization.

Cost and Revenue Analyses Terms and Definitions

Cost Analysis: A study of the costs of the resources (for instance, personnel, supplies, and equipment) associated with implementing a project, program, service, or other activity.

Direct Costs: Those costs that are directly associated with, or attributable to, a specific service or category of services, such as the personnel costs of providing a service.

Direct Service Time: The amount of time each person spends providing direct services to clients.

Fixed Costs: Costs that do not vary with the quantity of people served or services delivered, such as main office expenses, insurance, rent, salaries, and depreciation on special equipment.

Indirect Costs: The operating costs of an organization that are shared by more than one service, service category, or department (such as building maintenance and utility expenses).

Revenue: Monies received from sales (of medicines, contraceptives, etc.), services, and fees.

Revenue Analysis: A study of the revenues (fees, donations, and grants) received from your clients, from external sources, and/or from your organization.

Supply: The quantity of a good or service produced at a given price.

Variable Costs: Costs that vary according to the level of service provided or number of people served, such as the amount of medicine, contraceptives, and clinical supplies used in providing services.

Obtaining the Cost and Revenue Analysis Tools

Title: Cost-Analysis Methodology for Clinic-Based Family Planning Methods

Price: Free

Ordering Address:

Publications
AVSC International
79 Madison Avenue
New York, NY 10016, USA

Phone: (212) 561-8000

Fax: (212) 779-9489

E-Mail: info@avsc.org

Title: CORE: A Tool for Cost and Revenue Analysis

Price: \$50.00

Ordering Address:

Publications and Electronic Products
Management Sciences for Health, Inc.
165 Allandale Road
Boston, MA 02130-3400, USA

Phone: (617) 524-7799

Fax: (617) 524-2825

E-Mail: bookstore@msh.org

Title: A Supply-Demand Model of Health Care Financing with an Application to Zaire: A Training Tool

Price: \$23.95

Shipping Charge: USA: \$5.00; Overseas: \$13.00

Ordering Address:

World Bank Publications Order Desk
P.O. Box 960
Herndon, VA 20172-0960

Phone: (703) 661-1580

Fax: (703) 661-1501

E-Mail: books@worldbank.org

Reviewers' Corner

A forum for discussing additional applications of the concepts and techniques presented in this issue

On competing in the new health market . . . *One reviewer writes, "Using a cost and revenue analysis tool helped us realize which services were recovering more costs, understand how better to cross-subsidize services, and offer more family planning services. It also prepared us to be able to compete in the new, more competitive health market."*

On promoting change . . . *One reviewer comments, "The results of our cost and revenue analyses had great impact in promoting change in our organization and motivating managers to improve their managerial capacity. The analyses also had a social impact, because they showed us that some of our prices were too high and could be reduced."*

On involving service delivery staff in the analyses . . . *One reviewer says, "Many service delivery staff were initially uncomfortable with the financial management side of services. It was easier to involve them in conducting cost and revenue analyses after they understood their potential benefits. Involving service delivery staff in the analyses has also helped us to balance service delivery requirements with cost efficiency."*

On projecting future scenarios . . . *One reviewer comments, "One very attractive feature of our cost and revenue analysis tool is that we can ask 'what if' we make changes in services, staffing, pricing, and marketing, and then we can explore the effect these changes would have."*

References

- Bitran, Ricardo. *A Supply-Demand Model of Health Care Financing with an Application to Zaire: A Training Tool*. Education Development Institute, World Bank, Washington, DC, 1994.
- Management Sciences for Health. *Cost and Revenue Analysis Tool (CORE), A User's Guide*. Management Sciences for Health, Boston, MA, 1998.
- Miller, Janice and James Wolff, eds. "Analyzing Costs for Management Decisions." *The Family Planning Manager*, Family Planning Management Development Project, Management Sciences for Health, Boston, MA, Volume II, Number 2, March/April 1993.
- Huber, Sallie Craig and Stephen J. Sacca. "Final Report: Marie Stopes Tanzania." Management Sciences for Health, Boston, MA, April-October 1997.
- Papke, Tonia. *Cost-Analysis Methodology for Clinic-Based Family Planning Methods*. AVSC, International, New York, NY, 1996.



Checklist for Using Cost and Revenue Analysis Tools

- Determine what issues concern you most about the financial sustainability of your health program/organization. Consider the costs of providing services, use of resources, fees, demand, access, cost recovery, cross-subsidization, and expansion.
- Make a commitment to devote the time, human resources, and funding necessary to carry out a cost and revenue analysis, which includes forming a team, gathering the necessary data, entering it into a spreadsheet tool, analyzing the information generated, undertaking various “What if” analyses, and making decisions.
- Consider what questions you hope to answer by conducting a cost and revenue analysis. For example, do you want to know which services are generating income surpluses and which are producing losses? Do you want to evaluate the cost implications of changing your staffing patterns? Do you want to determine whether you can afford to serve a greater number of non-paying clients?
- Review the features of available cost and revenue analysis tools. Consider the computer hardware and software requirements, the time required to do an analysis, and the data the tool needs. Choose a cost and revenue analysis tool that suits your needs.
- Form a multi-disciplinary team of staff from key management areas that will work together in conducting the analysis, analyzing the data, and making decisions.
- Inform your entire staff of the initiative you are undertaking and explain the importance of their participation in this process. Gather the necessary data and enter it in your spreadsheet.
- Discuss with your team the information generated by your analysis. Begin to consider the kinds of changes you could make to improve your cost efficiency and revenue generation. Changes to consider might include revising your standard practices, adding new services or facilities, eliminating some services or facilities, or using some services or facilities to cross-subsidize others. Use your spreadsheets to explore the possible impact of these changes.
- Make decisions on cost and revenue factors such as service mix, staff utilization patterns, fees, and cross-subsidization strategies.
- Monitor the impact of your management decisions. If you have more than one service delivery site, compare information on them.
- Update your cost and revenue analyses at regular intervals, and integrate cost and revenue analysis into your ongoing activities.

The Manager is designed to help managers develop and support the delivery of high-quality health and family planning services. The editors welcome any comments, queries, or requests for subscriptions. Please send to:



The Manager
Family Planning Management Development
Management Sciences for Health
891 Centre Street
Boston, Massachusetts 02130-2796 USA
Phone number: (617) 524-7766
Fax number: (617) 524-1363
E-mail: fpmdpubs@msh.org

The FPMD project is funded by the U.S. Agency for International Development. This project provides management assistance to national family planning programs and organizations to improve the effectiveness of service delivery.