Reproductive Health Cost Reporting System

A User Guide

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Reproductive Health Cost Reporting System
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ABBREVIATIONS

CCOHTA   Canadian Coordinating Office for Health Technology Assessment

GHeL   Global Health eLearning

RHCRS   Reproductive Health Cost Reporting System

RH   reproductive health

SDP   service delivery points

INTRODUCTION

The Reproductive Health Cost Reporting System (RHCRS) is a management tool that can help reproductive health (RH) service delivery organizations to capture and analyze existing financial data on a regular basis. As such, it is designed to treat financial, commodity, labor, and other cost data as inputs to a system that allows service delivery organizations to estimate what it costs to deliver specific services, what the cost drivers are, and how these costs may differ across service delivery points (SDPs), across regions and over time.

Organizations frequently collect service delivery counts and track expenditures on human resources and labor, medical supplies and procurement, and other regularly incurred office and equipment expenses. Yet, these data are rarely assessed together, let alone annually. The RHCRS allows organizations to use these records **to calculate the average cost of their services.** These unit costs can then be compared across sites and regions of the organization and broken down by various cost elements. Annual data enable programs to assess trends in service costs. Reports and graphics are available to illustrate and summarize these comparisons.

Why is it useful?

The RHCRS helps programs that deliver family planning and other health service delivery programs to understand their costs and use this information to inform decision making.

Understanding the cost of health services can help programs manage funds and budgets more effectively, estimate government reimbursement or patient charges per service with increased accuracy, or inform service provision decisions. Information about the cost of different services both across an organization and at individual sites allows for better resource allocation and potential cost reduction. At the program level, knowing how much individual services cost allows for better planning and budget tracking and anticipation of funding gaps.

How is the RHCRS different from other costing tools?

First, RHCRS is a cost analysis system, not a cost forecasting tool or cost analysis study. Most available tools assist organizations with forecasting costs, estimating scale-up, or planning supplies. These tools are unable to estimate an organization's cost per service, as the RHCRS does. Most cost analysis studies are highly specific to the organization and the services being studied. Often, cost elements in one study are not available in another, similar study. The RHCRS offers a standardized platform for cost analysis. Second, it allows organizations to make comparisons across multiple service delivery sites and regions. Third, the system is designed to capture *existing* data on a regular basis, potentially over the course of multiple years. Most costing exercises are one-time occurrences that rarely capture trends over time. Last, the system is designed as a general cost analysis system that can be completely customized for any health delivery system.

What is in this guide?

The purpose of this guide is to provide organizations using the Reproductive Health Cost Reporting System with information about how the system works and who it is intended for, and a detailed tutorial on how to use it.

Section 1 provides a short introduction to costing for family planning and other health programs, focusing on the components that are important for using RHCRS. This is followed by a pre-data capture self-assessment

and a description of the cost data required to use the system, which will help organizations determine if the RHCRS is a good fit based on program features, data capacity, and question of interest. The guide then provides a comprehensive description of how to navigate the system, complete the configuration process, enter collected data, and use the accompanying dashboard. Finally, the guide discusses how to interpret the results, while also highlighting the limitations of costing family planning programs using RHCRS.

1. SYSTEM OVERVIEW

1.1. How does the system work?

The RHCRS requires several steps:

1. **Complete** a web-based configuration process
2. **Download** customized data capture forms
3. **Prepare** and enter data into the capture tools
4. **Upload** the capture tools to the web-based system and check uploaded data
5. **Explore** the dashboard summarizing cost data with tables and visualizations

The RHCRS first requires users to create a web-based account (https://rhcrs.measureevaluation.org/). This account provides users with instructions for customizing their data collection tools to their organization's needs by entering organization-specific information, such as site names, employee types, services, and commodities. These elements define four separate Microsoft Excel data capture forms, which can then be downloaded. One file will capture the amount of time employees spend delivering different services. The others will capture site-level costs and service delivery data, with one file for administrative sites and another for service delivery sites. Once data are entered in the Excel data capture files, they will then be uploaded to the organization's online account, and the system displays results in an interactive dashboard.

1.2. Who should use this tool?

This tool is ideal for organizations that (1) provide family planning or reproductive health services, (2) have multiple SDPs, (3) are located in a low- or middle-income country, and (4) wish to invest in the regular collection of cost data.

This tool was developed following a thorough review of the literature on family planning costing research globally, and it was pilot-tested at a health organization in Africa. While the RHCRS is intended for organizations in low- and middle-income countries that provide family planning and reproductive health services and have multiple SDPs, it is general enough that it is appropriate for organizations in developed countries.

For a more detailed assessment of how well an organization fits with RHCRS, please use the Pre-Data Capture Self-Assessment Form.

1.3. How was the tool developed?

In June 2011, MEASURE Evaluation produced a review of the cost estimates found in the existing literature on the unit costs of family planning for an expert meeting (Moreland, 2011). The study built on previous efforts, in particular the RH costing database compiled by the United Nations Population Fund in 2003, updating it to the year 2010. The study looked at which cost elements were included (personnel costs, FP commodities, supplies, facility and administrative overhead costs, capital costs, training and information, education, and communication materials) and what methodologies were used to collect, calculate, and allocate these different costs. The findings of the review suggested that FP costing studies are vague when it comes to explaining the methodologies used to assess and allocate costs.

In preparation for the development of a cost reporting system in 2014, MEASURE Evaluation used and expanded upon this review to incorporate an additional review of global health costing tools already in use. This additional review found that there is a gap in the costing tools currently available to family planning programs that have multiple service delivery outlets and are driven by the regular reporting of cost data. This research informed the first round of development for the RHCRS.

The data-capture Excel forms developed through this process were then pilot-tested with the help of a large African reproductive health organization with more than 50 SDPs, including both clinical and community-based delivery, and a wide range both of family planning and nonfamily planning services. The data were then used to further refine the data capture forms and develop a prototype of the RHCRS dashboard.

2. THE BASICS OF COSTING FAMILY PLANNING AND HEALTH PROGRAMS

This section introduces some basic concepts of cost analysis (often referred to as "costing"), with a focus on those aspects that are relevant to family planning health services. For those who want to skip directly to the section describing how to prepare for using RHCRS (Section 3).

2.0. Background

Despite the usefulness of **cost analysis** in family planning and reproductive health arenas, there are few resources available to assist organizations in regularly reporting and calculating their costs (Godbole & Smith, 2014). Additionally, using global estimates from published costing studies of family planning services is problematic. There is great variation in the cost elements included, the methods used to gather costs, and geographic coverage, making comparisons and use of the data in other settings difficult; reviews of the literature on this topic demonstrate how much variation exists in the process (Weissman & Stover, 2011).

The RHCRS was developed to help programs sidestep this complexity by using a preformatted, standardized cost allocation process, developed through in-depth review of the literature and field-testing with actual family planning programs.

2.1. Cost Management Tool versus Cost Studies

Cost analysis is a type of partial economic evaluation that deals only with the cost description of multiple interventions or programs. This is different from other forms of full economic evaluation, because it does not involve linking the cost of an activity to a health benefit or outcome measure (United States Agency for International Development Global Health eLearning [GHeL] Center, 2011). Cost analysis studies are typically retrospective in nature and use real price data. The result or output of a cost analysis study is typically the average cost per unit (Janowitz & Bratt, 1994). While this is similar to the RHCRS, which outputs average **cost per service,** the RHCRS is not a cost study. This is because cost studies are often one-off studies that will differ in approach and structure based on the existing records that are in place at an organization. RHCRS is more of a management tool that is intended to systematize the collection of existing financial, human resource, equipment, and service delivery data over time.

It is important also to highlight why RHCRS is different from other cost management tools. Most tools are used for cost projection, which is used to inform national or institutional budgeting, planning, and implementation for health programs or services. This is not a type of economic evaluation and differs from the cost analysis approach used in RHCRS in several ways. First, a cost projection is used to estimate costs in the future, so while existing cost data may be used to make these estimates, the level of precision is lower than in a cost analysis. Second, because the data used have less detail or are obtained from national data sources, cost projections are not able to produce the cost per service measures that result from a cost analysis study.

RHCRS differs from many of the other "costing" tools available on the Internet, because it helps organizations manage their own cost data to obtain cost per service measures and to view variation in that information from year to year.

2.2. Determining a Cost Estimation Approach

While there is no consensus on the exact method of cost estimation within family planning, it is widely held that resource use should be measured in physical or natural units (Canadian Coordinating Office for Health Technology Assessment [CCOHTA], 1996; Slothuus, 2000; Elliot & Payne, 2005). Selection of the appropriate cost estimation method is determined by the following (Beecham, 1995; CCOHTA, 1996; Brouwer, Rutten, & Koopmanschap, 2001; Oostenbrink, Koopmanschap, & Rutten, 2002):

- Perspective of the study
- Decision problem
- Availability and feasibility of data measurement

Perspective

The perspective of a cost analysis can affect the decision problem being addressed, method, cost elements, and statistical analysis. The perspective of the study should be determined at the outset. Possible perspectives are patient, provider, purchaser (payer), sponsor (e.g., employer), government, and societal (Luce, Manning, Siegel, & Lipscomb, 1996).

The RHCRS is focused on the provider perspective, because the user is concerned with all aspects of the cost of providing treatment, as well as any expected revenues associated with increased demand for services. RHCRS is not concerned with out-of-pocket patient costs, costs to society, or other "upstream" costs incurred outside of the organization itself.

Decision Problem

A decision problem is the economic question one wishes to answer when conducting cost estimation. The possible decision problems that might be informed by a cost assessment may be the following:

1. Cost comparison between providers
2. Cost comparison between SDPs
3. Cost comparison between providers in different geographical areas
4. Benchmarking for services/providers
5. Identification of areas for efficiency/cost reduction
6. Assessment of value for money
7. Budgeting and program planning

For examples of specific decision problems addressed by RHCRS, please see the Pre-Data Capture Self-Assessment Form.

Availability and Feasibility of Data Measurement

A data capture form is only as useful as the data entered in it (Conteh & Walker, 2004). Poor data containing numerical errors, quality or consistency issues, or incongruent information across sites will make using the tool and producing accurate results difficult. The following list summarizes basic tenets of data quality (MEASURE Evaluation, 2015):

Accuracy—It measures what it was intended to measure.

Completeness—Data are collected comprehensively.

Reliability—Repeated measurements using the same procedures get the same results.

Timeliness—Up-to-date and available on time

Confidentiality—Clients' data are not disseminated.

Precision—Have sufficient detail to use for decision making.

Integrity—Protected from bias or manipulation

In the case of the RHCRS, programs must have routine data collection records on financial expenditures, labor, and more. If a program has limited or no routine data collection taking place within these categories, using the RHCRS will be very difficult, if not impossible.

To double-check that your organization is collecting the data necessary for using the RHCRS, please use the Pre-Data Capture Self-Assessment Form and review Section 3.2 on "What data are needed?"

2.3 Methodological Approaches to Cost Estimation

Data Collection Timing

Costing studies can be prospective, concurrent, or retrospective. Concurrent approaches can be used when it is possible to collect data during the implementation of the health service activity. Prospective approaches involve eliciting expectations about resource use from stakeholders who are knowledgeable about the implementation of the health service activity. Retrospective approaches use existing data and information on the resources consumed during the development and implementation of the relevant health service activity. Though retrospective cost estimation methods are often the least costly approach, they rely on the availability and accuracy of the original database and cost recording systems, meaning that accuracy and reliability can vary widely (Luce, Manning, Siegel, & Lipscomb, 1996; Slothuus, 2000).

Bottom-Up verses Top-Down Approaches

Another important aspect of cost estimation is deciding whether to use a bottom-up or top-down approach.

There is no consensus as to which is more appropriate. The decision on which approach to use is based primarily on what cost data are available. Bottom-up approaches can be either retrospective or prospective. Bottom-up approaches, including direct observation and patient flow analyses, are more detailed, accurate, and reliable cost estimates. The bottom-up approach has been clearly defined for family planning by Janowitz and Bratt (1994). However, there are components of family-planning service provision that may be missed using bottom-up approaches, including start-up, social and behavior change and demand-creation efforts, training, and administrative overhead. Because they frequently rely on financial and accounting records and other databases, top-down approaches are retrospective (Gyldmark, 1995; Slothuus, 2000). Top-down methods are more appropriate for estimating the cost of implementing a family planning program (broader than family planning service delivery).

Based on the perspective and related decision problems of RHCRS, the tool uses a retrospective, top-down approach. This means that the tool makes use of existing, routine data from accounting and billing records, financial reporting systems, inventory records, surveillance systems, and similar sources. In the case of labor,

a hybrid approach will be used, with records of staff counts per site and generalized staff salaries being top-down and the time staff spend on specific services collected being a more bottom-up approach.

2.4 Categorizing Resources in Cost Estimation

A key factor in estimating unit costs of service delivery is the identification of relevant resource items (or costs). Examples of resource types are the following:

- Administration
- Labor/personnel
- Equipment
- Buildings/land/rent
- Administration
- Other direct costs (commodities, goods, services)
- Donations (labor and goods)

A primary objective of a cost analysis is determining how to classify resource items. Input costs can be classified and calculated in several different ways. The following pairs of health economics terms are commonly used to classify costs and are important for understanding the breakdown of costs for RHCRS:

- Direct versus indirect costs
- Capital versus recurrent costs

Direct costs refer to those resources consumed in the provision of healthcare services that can be clearly linked to the service. They can be further separated into direct medical costs and direct nonmedical costs. Direct nonmedical costs refer to resources used to support the medical services or interventions delivered (e.g., travel, patient and caregiver time). **For the purposes of the RHCRS, we are interested in direct costs for commodities and labor. We are not interested in direct nonmedical costs.**

Indirect costs that cannot be directly identified with a service or product, but are included in the costs of supporting the activities, include, for example, costs associated with collecting statistics and clinic administrators and their supplies. Indirect costs can also be related to production losses caused by illness or premature death, but the term will not be used that way for the purposes of this tool (Janowitz & Bratt, 1994; Elliot & Payne, 2005).

Recurrent costs are expenses incurred in the day-to-day provision of services, apart from personnel and commodity and pharmaceutical costs. These may include, for example, building utilities and rent and transportation and fuel costs. Recurrent costs are relatively simple to calculate when their market price reflects their opportunity price (Janowitz & Bratt, 1994; Elliot & Payne, 2005).

Capital Costs are considered investment expenses and are treated differently than operating costs. Capital costs, such as buying a new asset, generally have foreseen benefits longer than one year. Organizations may have their own, local definition of what is to be included in capital costs and how the rules for financial management and for assessing the current value of these costs should be applied. Capital costs are depreciated over a defined period. In addition to depreciation, the opportunity cost of capital must be considered.

For the RHCRS, cost categories are established for the user. Clear explanations of how resources fit into these categories are presented in Section 3.2.

2.5. Other Key Components of Cost Estimation

Donated Resources

Often, health programs, especially those run by nongovernmental organizations, receive donated resources. For example, a family planning program may receive contraceptives from a donor at no cost to the organization. Or a program may benefit from volunteer labor. These types of resources, including donations of goods or labor, are not recorded in the financial costs or expenditures for a program. As such, the economic value of these resources, or their cost, must be accounted for through an estimation of the donated resource's market price (Janowitz & Bratt, 1994; Johns, Baltussen, & Hutubessy, 2003). Whether or not a cost analysis accounts for such costs depends on the nature of the research problem at hand (Conteh & Walker, 2004). For the RHCRS, opportunity costs are not considered for personnel (like volunteer time) but are considered for large items and equipment or commodities used directly in the provision of family planning services (Janowitz & Bratt, 1994).

Cost Allocation

Cost allocation is the assignment of costs to various "cost centers." Cost centers are typically institutional departments, technical areas, or service areas. The terms cost distribution, cost apportionment, and cost assignment are often used interchangeably with cost allocation. There are three primary steps in cost allocation (Zimmerman, 2003):

• Select and describe cost objects.

• Identify and accumulate overheads to be assigned to cost objects.

• Choose a method and allocation base for overhead allocation.

The RHCRS is developed with preset cost categories, which means the cost allocation process is built into the system itself and is not dependent on the user. This cost allocation process is used to determine the annual costs associated with specific family planning and reproductive health services.

Cost per Service Calculations

The calculation of average cost per service requires two primary pieces of information: (1) the annual total costs associated with providing a service at a specific site and (2) the number of instances that service has been provided. The annual cost of providing a service is divided by the number of services, resulting in the average cost per service for each site where data are collected (Conteh & Walker, 2004). Both units of information should use a consistent reporting period. For a full breakdown of the calculations used to allocate and determine cost per service, please see Section 5.2.

3. Preparing to Use RHCRS

> Before starting online configuration or data collection, be certain that this system will help your organization. The Pre-Capture Assessment form will help organizations assess their fit with the system. If RHCRS is a good fit, the remaining sections will help the user understand what data are needed and how to develop a data collection plan.

3.1. "Is RHCRS a good fit?": Pre-Data Capture Self-Assessment Form

Use the following table to assess whether your organization meets the criteria for using the RHCRS. The assessment comprises three parts. Part 1 assesses whether your organization is an appropriate fit based on aspects of the services provided and location. Part 2 outlines data capacity, enabling organizations to understand if the data they have is of high enough quality. Part 3 will help determine if the RHCRS can answer the cost-related question your organization wishes to answer.

Part 1. Program Characteristics

Program Feature	Is RHCRS a good fit?
Question 1. Does the organization have multiple service delivery points?	**Service Delivery Points:**
YES, multiple service delivery points ————>	Yes, good fit.
NO, single site ——————————>	Yes, but some functions of how data results are viewed on the dashboard will not be applicable.
Question 2. Are there different types of service delivery approaches across sites? (i.e., are some sites clinical, while others use community-based approaches or target specific high-risk populations?)	**Service Delivery Approach:**
NO, multiple service delivery points, all have the same delivery approach ————————>	Yes, good fit.
YES, multiple service delivery points with variation in delivery approach ——————>	Yes, but extra care needs to be taken during system configuration to ensure that your organization-specific lists for the types of services delivered and commodities used are applicable to all SDPs.

Program Feature	Is RHCRS a good fit?
Question 3. Does the organization provide only family planning services? (clinical and nonclinical)	**Service Type:**
YES, family planning services only ————>	Yes, good fit.
NO, family planning services and nonfamily planning services ——————————————————>	Yes, good fit. The system was tested with organizations providing a range of primary care services in addition to family planning services. Regardless, some of the standardized lists provided for users may be less appropriate, depending on the nature of the other services provided.
NO, only nonfamily planning services ————>	Potentially inappropriate at this time.
Question 4. Is the organization located in a low- or middle-income country?	**Location:**
YES, low- or middle-income country ————>	Yes, good fit.
NO, higher-income country ——————————>	Potentially less appropriate.

Part 2. Answers: Data Capacity

To effectively use the Reproductive Health Cost Reporting System, organizations must already be collecting the right kind of data, making data availability essential.

Questions 5. Does the organization track routine financial data, including records of staff pay, procurement or commodity costs and use, recurrent costs like building and transportation expenses, and administrative or overhead expenses?	Financial Data Availability:
YES, the program keeps track of these kinds of expense data——>	Yes, this makes RHCRS a good fit.
NO, the program doesn't routinely collect these types of data ——>	Organization will not be able to use the system.

Question 6. Does the organization track the number of times specific services are delivered by site (service delivery counts)?	Service Data Availability:
YES, program keeps track of service delivery counts ———>	Yes, this makes RHCRS a good fit.
NO, program doesn't routinely collect the necessary data ———>	Organization will not be able to use the system.

If an organization is collecting the correct types of data, it is equally essential that these data be of high enough quality to use in the system.

7. Does the organization have written **policies and procedures** for data collection/reporting?

8. Are there **clear definitions of roles** and responsibilities at all levels of the organization related to the collection of program data?

9. Does the data collected reflect **stable and consistent data collection processes** and analysis methods over time?

10. Does the organization use **consistent tools or templates** with clear instructions for collecting both financial and service delivery data?

11. If consistent tools are used, do they have safeguards to minimize the **risk of transcription error** or data manipulation?

Questions 7-11. Data Quality:	
YES, the organization has data collection policies in place, with clearly defined staff roles and consistent templates using safeguards —————————>	Yes, this makes RHCRS a good fit.
NO, the quality of the data collected is uncertain–>	Use of the system may prove challenging if expense or service data are collected using inconsistent tools or templates that lack safeguards. If staff are reporting things differently across sites or use differing reporting processes, results from the analysis may have weaknesses or the potential for error.

Part 3. Answers: Decision Problem/Question of Interest

12. I am interested in using this tool to compare the **cost of services** across different delivery sites.

13. I am interested in using this tool to **budget** a program.

14. I am interested in using this tool to set **reimbursement rates** or client fees.

15. I am interested in using this tool to **advocate** funding.

16. I am interested in using this tool to **predict or project costs.**

17. I am interested in using this tool to create a **national budget.**

18. I am interested in using this tool to assess **cost-effectiveness.**

If you answered **YES** to **Questions 12, 13, or 14,** this tool will potentially be **directly relevant** for your purposes.

If you answered **YES** to **Questions 15, 16, 17, or 18,** the RHCRS may be of interest if used in conjunction with other information.

For a more complete explanation of the potential research questions this tool can assess, please review the following table:

Direct Fit	Explanation
I want to **compare the cost of services** across different delivery sites.	Yes, good fit. The system allows you to calculate the average cost per service and compare these costs across sites.
I want to **budget a health program** or make programmatic changes to increase efficiency or effectively deal with a budget cut.	Yes, good fit. The average cost per service may help you identify inefficiencies between sites or in the delivery of specific services.
I want to set accurate **reimbursement rates** from clients or funders.	Yes, good fit. The average cost per service will allow you to set more accurate fees or rates.
Indirect Fit	**Explanation**
I want to use cost data to **advocate** more funding.	Potentially—but additional information would be required.
I want to **predict or project** health service costs for program planning.	The RHCRS could potentially be used when paired with a projection of services.
I want to plan a country's **national budget.**	The RHCRS will only provide unit costs of specific services for the organization using it.
I want to do a **cost-benefit or cost-effectiveness analysis** (because I want to know things like cost per visit or cost per "couple year of contraception" (CYP), which link cost data to outcomes).	The RHCRS does not link the cost data collected to health benefits or monetary outcomes, but instead focuses on cost drivers and calculating cost per service. Someone with outside experience in economic evaluation may be able to use data produced by the RHCRS to do more complex assessments outside of the system. The RHCRS on its own is not able to conduct cost-effectiveness analysis.

3.2. "What data are needed?": Overview of the Data Necessary for RHCRS

To use the RHCRS, you will need to collect data on all of the program's resources across all selected sites and at administrative headquarters for a 12-month period.

The following list gives a basic overview of the types of site-level data records that will be necessary when using the RHCRS:

- **Labor***:
  Salary, payroll, or pay slip information and records for staff directly involved in the provision of FP and RH services (including clinical, outreach, or laboratory staff), as well as administrative staff (including laboratory, secretarial, cleaning, driving, or management staff). Have both quantity (number of staff), as well as average salary by staff type.

- **Recurrent costs:**
  Building-related expense records like rent bills, utility bills, and mortgage or purchase papers for land/buildings
  Transportation-related records on gasoline/petrol expenses or reimbursements

- **Services:**
  Service delivery records or aggregate data from patient medical records on what services were conducted over the course of the reporting period

- **Commodity costs:**
  Procurement or purchase records for all contraceptives, medical and laboratory supplies, pharmaceuticals, diagnostics, medical devices and instruments, and other commodities. As with labor, you need to have both the quantity purchased and the cost per item (or the estimated market value for donated items).

- **Capital costs:**
  Transportation-related records on the purchase dates and cost of vehicles
  An inventory of furniture or large equipment in use, including purchase/donation dates and monetary value

Remember that this information must be collected for each SDP and any administrative offices or headquarters that are not responsible for direct service provision.

Defining the Reporting Period

For the RHCRS, cost data should reflect a 12-month period so that the annual costs calculated are accurate. This is referred to as the reporting period. For example, the reporting period could be January 1, 2016 to December 31, 2016. All records and data collected will need to span this period.

Determining Which Data Go into Which Category

Once you have collected the routine data records for your program, you need to know how to appropriately group the data when entering it for use in the RHCRS. When doing cost analysis, resources can be broadly grouped into labor, capital, and materials/supplies (Janowitz & Bratt, 1994). For the RHCRS, categorization of cost data is separated into five major areas: capital costs, recurrent costs, labor costs, service delivery, and commodity costs. The following section defines and provides examples for each category for the purposes of this tool.

Capital Costs

Capital costs are considered investment expenses that have foreseen benefits lasting longer than one year. In the case of RHCRS, capital costs are considered for assets that are *used for longer than a year* AND worth more than a user-defined amount (e.g., $1,000). This list includes the following:

- Medical equipment (e.g., Hematocrit centrifuge, Pima CD4 Analyzer, operating lamps, or diagnostic devices)

- Furniture (e.g., hospital beds, operating tables, and desks)
- Vehicle (ambulances or other vehicles used for program-related transport)
- Computers (e.g., laptops/computers and one-time purchase software)
- Miscellaneous equipment (e.g., printers/photocopiers, projectors, generators, and televisions)
- Buildings (e.g., purchased buildings or land)

Information on these costs can be aggregated from purchase records, inventory data, and building- or transportation-related records.

You will need to locate the following information from your records for each capital cost item:

- Name of the item (e.g., Pima CD4 Analyzer)
- The market value for each item when it was purchased or received (If the program paid for the item, use the financial cost, or how much was paid for it; if the item was donated, estimate how much it would have been worth when donated.) *Remember that the market value should be above the specified amount—if it is not, you must categorize the item(s) under the commodity costs category.*
- Quantity (do you have one Pima CD4 Analyzer or five?)
- The purchase or donation date of each item (If you have five Pima CD4 Analyzers, you need this information for each one, if they were not purchased together.)

Recurrent Costs

Recurrent, or operating, costs are expenses incurred in the day-to-day running of the treatment activities, program activities, business, or facility. Think of these costs as something the program spends money on consistently every single month to keep operations going.

The following list comprehensively defines the typical recurrent costs for family planning programs:

- Building rent
- Utilities (water, gasoline or oil, refuse/waste/trash, and electricity)
- Internet
- Telephone
- Vehicle rental
- Petrol/gasoline costs for transport
- Regularly purchased stationary and office supplies
- Maintenance and renovation to building, equipment, or vehicles
- Printing, publication, and promotional materials

For each recurrent cost, you will need to calculate **a total annual cost** from your records to be entered into the RHCRS.

Labor

Labor costs can be divided into two components, direct labor costs and indirect labor. Direct labor costs are the costs of employees directly engaged in providing services to clients. Indirect costs are the costs of staff that support direct employees but do not engage in direct service provision. For the purposes of the RHCRS, these two categories of cost data are collected slightly differently. For each site, the number of direct

and indirect employees will be collected. This data will then be linked to average salary amounts for each employee type (which is entered in the system prior to actual data collection).

An additional step for direct employees involves collecting data on the time each provider spends delivering specific services to clients. These data are collected using the time and labor capture tool described in Section 4.3. Establishing a data collection plan that addresses the capture of time and labor information is discussed in Section 3.3.

Service Delivery

This category is not a cost element. For this component of the RHCRS, information related to direct service provision at each SDP must be entered. Specifically, the tool asks for the number of times each service was performed over the course of a year.

Commodity Costs

Commodity data should come from procurement or purchase records, or may be found in a commodity logistics system. You will need to extract the commodity name, the annual quantity used at the SDP, and the unit cost. Working with commodity data can be confusing, because the quantities of items may come in a variety of options depending on the seller and how items are purchased. For example, pharmaceuticals may vary in strength and quantity (e.g., 200 mg amoxicillin, 200 capsules). Medical supplies may vary in size and quantity (e.g., plastic speculum, size small, medium, large, in packs of 100 or 500, versus metal speculum sizes small, medium, and large, purchased individually).

In order to handle this type of variation, the RHCRS provides a standard list of commodities that eliminate all quantity amounts. Users can alter the list or create their own to meet their needs. Since variation in volume size and packaging amount is not included in the standardized commodity list, those entering the unit price must make sure to properly account for the quantities being used. Ideally, the user should record commodities using a unit cost, or the cost for a single unit of an item. For example, if the commodity list says "condoms, male" and this refers to individual condoms, procurement records listing 200 boxes of 1,000 male condoms, costing $200 each, should be recorded as 200,000 male condoms at $0.20 each. This information could also be listed as 200 male condoms at $200 apiece. It important that the quantity and the price are listed in a consistent fashion. All users entering information in the capture forms must have a clear understanding of how to input prices and units for communities so that data are consistently collected across the organization.

For the purposes of the RHCRS, costs for commodities that are directly used in a service are referred to as "direct commodities." For example, an intrauterine device (IUD) is a commodity directly linked to a family planning service. These direct commodities need to be separated from the other commodities, which are referred to as indirect commodities. An example of an indirect commodity would be rubber gloves or hand-washing soap. The system configuration section will provide detail on how to do this prior to data collection.

Training Costs

Training costs are any costs associated with conducting staff training at any level of the organization. These could take a wide variety of forms and might include trainings for new staff, retraining for existing staff, professional development, or new equipment/protocol trainings. If the costs were incurred by the headquarters of a regional office, then they should be reported at those levels. If there are specific trainings that take place at the SDP level, then the costs associated with those trainings should be reported in the capture tool for that individual SDP.

3.3 "What are the sources of the data?": Data Collection and Sampling Considerations

Now that you know the types of data needed to use the RHCRS, it is important to decide on a data collection plan. Every program will require different approaches, depending on current structure, data reporting, and staffing/resource availability. Your approach will need to consider the two different data elements:

1. Site-level expenditure costs

- Captured using three data capture forms (headquarters, area offices, and SDPs)
- Whether to sample sites or collect data from every site
- Frequency of data collection, ideally collected annually

2. Direct staff time spent on service delivery

- Captured using the Time and Labor Form, which allows the user to survey staff involved in service delivery to assess how many minutes they spend on providing different services
- The surveys do not need to be administered at every site, but a sample of providers will need to be selected based on their type (e.g., midwife, nurse, or doctor)
- Information does not need to be collected annually, but can be done every two to five years, as determined necessary

These two types of data will require different approaches to data collection. Use the following questions to better prepare for system configuration and data collection for the first type of data, site-level expenditures:

How are financial data currently collected? Are they collected by site and then aggregated at the national or regional level, or do sites maintain data separately?

Every program will use different management systems to track expenses. If your organization has a centralized data collection system for all SDPs, there is no need to work individually with each SDP unless you need to collect expense-related information not captured in the system (like inventory data on buildings, vehicles, or equipment).

If the program has no centralized approach to routine data tracking for expenditures, records will need to be collected directly at the SDP level. This may involve site visits to collect specific information not captured through the larger data systems.

Are some data points (e.g., procurement and commodity records) collected differently than other records (e.g., recurrent building expenses or service delivery)?

If information from different categories is collected or aggregated differently across sites, this may increase the amount of effort to acquire and enter what is required. For example, you might find that procurement data are available for all SDPs at the national level but that the service delivery statistics are maintained at the site level. Understanding how and where data are stored and kept at your organization will help you determine the best strategy for how to access and collect them efficiently.

Will someone need to do site visits to collect the data listed above—or can that be done at regional or national offices?

Based on the answers to the first two questions, an organization interested in using the RHCRS must decide whether site-level visits are required to collect the data needed for the system. Staff already located at specific sites may also be able to assist with data collection, but additional training should be considered in this case. If most data are collected at regional or national offices, a small number of staff might be able to assess and transfer data from available records in a short time without having to visit every SDP. This decision is up to

the organization and should be based on the systems in place and resources/staff time available to commit to this activity.

Will you sample sites or collect data from every site?

Based on the organization's size and structure, you will need to decide whether or not to collect cost data from every SDP and administrative office or if you would like to collect data from a sample of sites. For smaller programs (fewer than 15 sites), it might be feasible to collect costs from each site. For medium-sized (15–30 sites) or large programs (more than 30 sites), this type of approach may not be feasible and sampling should be considered.

For medium and large organizations, determining whether sampling is necessary requires considering the resources available for this assessment alongside the feasibility of consolidating data from a large number of sites.

- **Current financial tracking system:** If every site/SDP tracks expenditures, labor, and commodities using different systems or approaches, the process of collecting and preparing decentralized data for use will be much longer and more time-consuming. You must consider feasibility carefully before determining your sampling approach. You may want to ensure high data quality for fewer sites over collecting data with errors or gaps for many sites.

- **Staffing:** We recommend having one or two primary staff members take responsibility for organizing data collection and ensuring data quality, with secondary staff members responsible for data entry at the site or regional level. If staffing time or funds are limited at a large organization, sampling may be necessary.

If sampling is needed, you will need to determine how to select a sample of SDPs. Though this guide cannot go into a detailed discussion of sampling, we recommend considering the following when preparing to use this system[1]:

- **Purposive selection:** Sites are selected based on specific features like size, geographical location, or data quality. In this situation, the sample should take into account factors that might impact costs. For example, if you have different regional locations, a rural versus urban setting, or other factors like the type of SDP (clinics, community-based distribution, etc.), facility size, or population served, you may want to sample so that you represent factors important to the organization and question of interest. Unfortunately, a purposive sample cannot be used to make inferences or generalization about the rest of the sites or a grouping of sites at the organization.

- **Stratified random sampling:** Sites are selected randomly from a subset of sites that meet a particular variable of interest. For example, a random set of sites within specific regional locations is selected. This approach would allow for generalization to all sites that share the chosen variable of interest. This approach may be ideal if the organization has to sample from SDPs overseen by regional administrative offices, because it would allow you to sample randomly within select geographically determined subset groupings.

- **Random sampling:** Sites are selected randomly in such a way as to be representative of all sites where service delivery or administration is taking place. Representative sampling ensures that sites selected randomly are similar to all of the sites at an organization based on specific attributes that could affect data quality. These attributes will be similar to those discussed above in the purposive sampling description— the primary difference is that a random subset of sites is selected within each attribute determined to be important to the organization and question of interest. Random sampling allows generalization or inference of data from samples sites to the rest of the organization.

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[1] See *Data Quality Audit Tool: Guidelines for Implementation,* here: https://www.measureevaluation.org/resources/publications/ms-08-29

For direct staff time spent on service delivery, use the following questions to guide decisions:

How many staff will be interviewed?

The more staff interviewed for each staff type, the more reliable the average time calculated per service per staff type will be. We recommend interviewing no fewer than three to five of each direct staff type. Of course, this is dependent upon availability. If the entire organization has one anesthesiologist, then you will interview only one anesthesiologist. If there are dozens of medical assistants—spread across 40 sites in five regions, for example—then it might be ideal to survey two to four in two or three regions. As with sampling sites, decisions should be based on feasibility. Other questions to ask yourself when deciding on how many staff to interview are the following:

• How many staff do we have across the organization in these service provision roles?

• Are there big regional differences that might change the time providers spend on different services?

• Do the staff roles vary because there are different types of SDPs (e.g., adolescent reproductive health counselors located at youth centers)?

• What resources do we have available to do these survey interviews?

Things to remember:

• Employee surveys do not need to cover all sites—or even the sites determined for the SDPs sample—but should instead be selected to maximize the number of each type of employee.

• These surveys can be done prior to, during, or after SDP data collection, but the system cannot process results accurately without this survey information. Different staff members can conduct the surveys in different locations (as long as their training in how to do the survey is consistent).

• The time and labor study does not need to be done every year; instead, the employee average salary information can be updated.

Take the above questions into consideration and then work with your team to determine the best approach for your organization's structure, resources, and interests. Develop a data collection plan that specifies:

Who will be responsible for

• …customizing the system to reflect the organization

• …SDP/site-level data entry

• …organizing and conducting the time and labor study

• …interpretation of data analysis and results

It is important to assign staff to manage or complete key tasks. With regard to the RHCRS, a team of staff might be needed to complete configuration within the online system, data collection using the capture tools, and data interpretation.

How will the staff responsible for data entry and collection be trained on data entry and quality?

If data collection and entry are delegated to a large number of staff (who may or may not have investment in this activity), it is important that they are trained (either in person or remotely) on the reason for this work and the importance of entering high-quality data in the data capture forms. This decision is up to the organization and should be based on the systems in place and resources and staff time available to commit to this activity.

The data collection plan your team devises will become crucial when you start data capture. Be sure to have a good plan in place so that the process is efficient, data quality is ensured, and staff are not overburdened or unmotivated to complete their assigned tasks.

4. Using the RHCRS

After deciding to use the RHCRS and establishing a preliminary data collection plan that fits your organization, you can begin to use the online portal for system configuration. The purpose of this step is to prepare the system to collect organizationally specific information during data collection by altering or creating prepopulated lists of site names, services delivered, employee types, and commodities. The front-end preparation of creating these lists will ensure higher data quality and better results later.

4.1. System Configuration

Information needed:

- A list of all **sites and administrative or regional offices** selected for data collection
- A list of **all services** delivered across all sites
- A list of **employee types and average salaries** by type
- A list of all **commodities** and their related unit amounts and prices
- Knowledge of which commodities are used for specific services the program offers

Process summary:

1. Create a user account on the website where the system is hosted: rhcrs.measureevaluation.org.
2. Log in and invite others to create joint accounts.
3. Collect information for completing the customization process.
4. Complete customization for:

    A. *Area offices*
    B. *Facility/SDP setup*
    C. *Employee setup*
    D. *Service types*
    E. *Services*
    F. *Commodities*
    G. *Capital equipment types*
    H. *Recurring costs*

5. Enter appropriate information to customize defaults:

    A. *Service commodity management*
    B. *Employee labor rate*

Step-by-Step Details of the Configuration Process
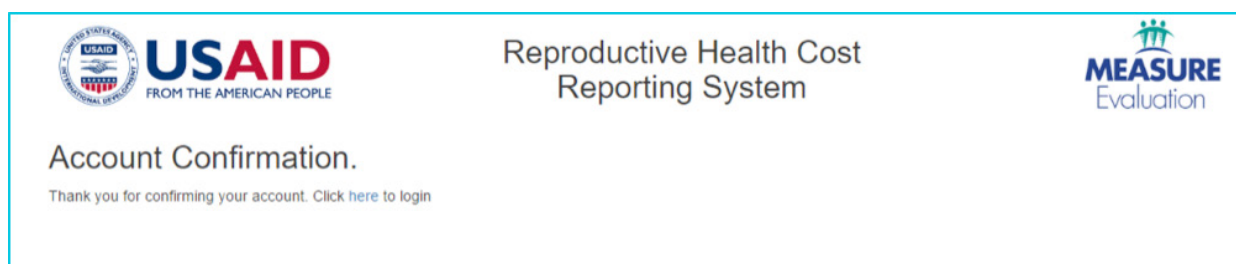
1. Create a user account.

The online system can be accessed at https://rhcrs.measureevaluation.org/. To create a new account in the online system, an email and password is required. The password must be at least six characters, contain one lowercase and uppercase letter (a–z), and have one nonletter digit or character. An example would be "Password1!" Be sure to select the appropriate local currency.
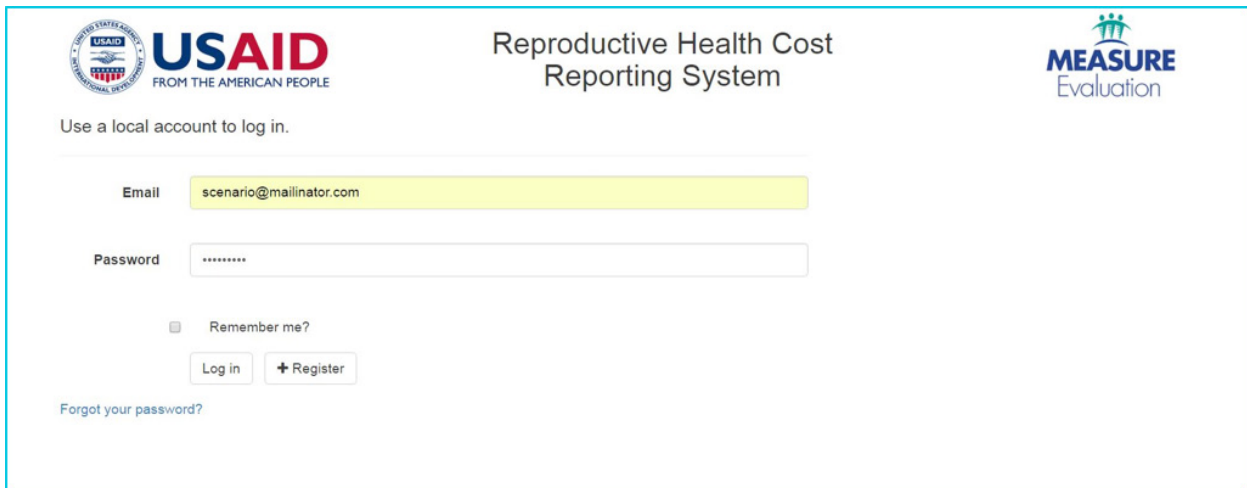
Upon registration, you will receive a confirmation email containing a link. This link must be clicked to activate the account.

2. Log in and invite others to create joint accounts.

After activating a new account, must return to the login page and enter the same email and password information to open your account.
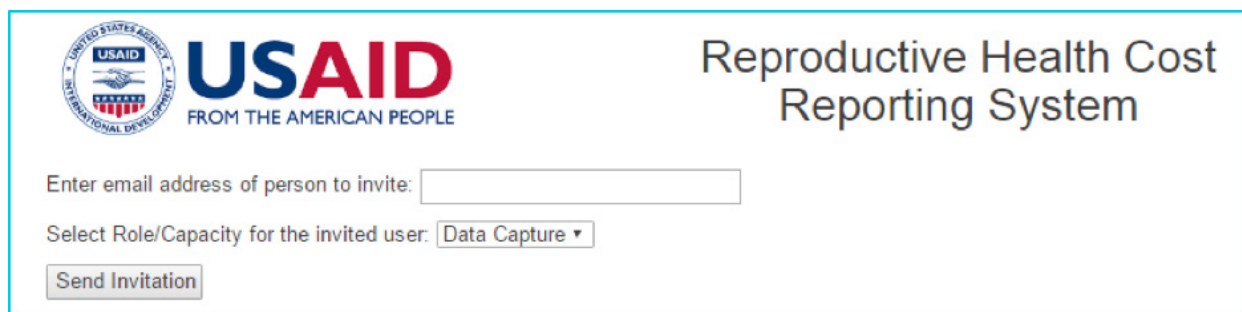
Forgotten password? Forgotten passwords can be reset using the forgotten password link below the login section. Entering your email address will prompt the system to send you an email that will allow you to do the resend.

Invite other users: Once the primary user has created an account, other users can be invited to a joint account. The primary user will click on the Invite option listed next to Logout on the top right-hand side of the page. This will bring up a page that allows the user to enter the email address for the invitation. Invited individuals will receive an email that walks them through the creation of their account.

User management: A user who has invited others to their account will be able to see the profiles of all invited parties in the User Management section. This primary account holder will be able to specify the role

of each invited party. Roles are limited to:

- **Data capture**—capture of data and data upload

- **Data view**—view of reports and read-only access to view the data

- **Administrator**—works as though they are logged in under the primary user account. They can do anything the primary user can do on the account, except modify the user permissions linked to the primary account.

Those who have been invited by the primary user and who opened an account from the invitation email will only see profile options for the primary user. For a team working with one organization, this is the recommended approach to creating linked accounts.

If a user has already created an account and needs to be linked to another account, their invitation email will enable them to keep their own account while also collaborating with the user who invited them. In this situation, the invited individual will need to change the profile setting option offered throughout the system to the other user's account in order to collaborate on shared data.

3. Collect information for completing the configuration process.

To conduct the system configuration, you will need to have some information prepared ahead of time. Specifically, the system requires that you create lists for different categories of information that will be used to structure and unify the data collection process. These lists will include the following:

- All regional offices (these are regional administrative offices that might oversee or manage SDPs in a specific geographic area)

- All facilities/SDPs (these are offices that deliver services to clients)

- Employee types. You will need to list all of the different types of employees at the organization, including those involved in direct service provision ("direct employees") and those responsible for administrative roles not involved in direct service ("indirect employees").

- Groupings for the types of services provided at the organization. Examples include family planning, counseling, and HIV services.

- Specific services delivered to the clients across all of the facilities. If there is variation in the services delivered, make sure the list you create accounts for the services at every site type. For example, if the organization has both clinical sites and youth education centers, the list compiled should include all of the services at each of these sites. When individual sites do data collection, they can skip services that are not provided at their site, but they will not be able to add new services, making the comprehensiveness of the initial list very important.

- Similar to the services list, create a list of the commodities that are consumed at sites in the process of delivering health services. Once again, this list cannot be altered very easily after the capture tools have been distributed for data collection, so be sure to include as many commodities on the list as possible. There is a standard list of commodities provided in the system that you can use or alter. This list does not include the volume of a commodity but instead implies the base unit. For example, if an organization orders condoms in packages of 1,000, the standard list refers to an individual condom, not the package of condoms. When making an organization-specific list, it will be important to decide whether these volume/packaging units should be included, as this will affect the unit costs entered during data collection.

- If there are different types of SDPs, you need to have lists that account for all potential employee, services, or commodity options. Remember that once data collection starts, adding new list items will be challenging.

- There are standard lists provided in the system. It may be better to select from or alter this list rather than make an entirely new list.

- You need to be able to categorize both services and commodities into groupings (e.g., an IUD insertion is a family planning service, while a prevention of mother-to-child transmission (PMTCT) consultation is an HIV service. Suggested groupings are provided, but be prepared for this if you are creating your lists entirely from scratch in the system.

4. Complete configuration by area.

Once you have compiled the lists detailed in the last section, the following instructions will walk you through how to enter this information in the system.

You will need to use the **List Management** portion of the system, which is found in the Administration tab, under Configuration.

A. Area/Regional Office

Under the Area Offices section, you can enter the regional office and headquarter offices list information. The Area Office code (Column 1) is a shortened version of the full area office name (Column 2). Use the Add button to create new entries. You must select Submit Changes for any new information to be stored.

B. Facility/SDP Setup

This section allows you to enter site names and link these sites to the area where they exist. To create a new facility, use the Add button and type in the facility name. Then use the Area Office drop-down menu to link each site to the region where it is located. **You should create an entry for every single site that administers any type of services. If an area office delivers services, create an entry for that site.**

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C. Employee Setup

To create the list of organization employees, click on Employee setup and select Add to create a new entry. **For each employee type, you must identify whether the role is directly involved in service delivery ("Direct") or uninvolved in providing services ("Indirect").** To save an entry and create another new entry, select Add & Continue. To complete and save a new entry and return to the Employee type page, select Add & Close.

To edit entries, go to the list of existing employee types, click on the entry, and select "Edit."
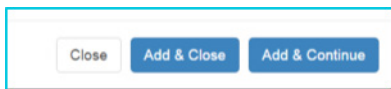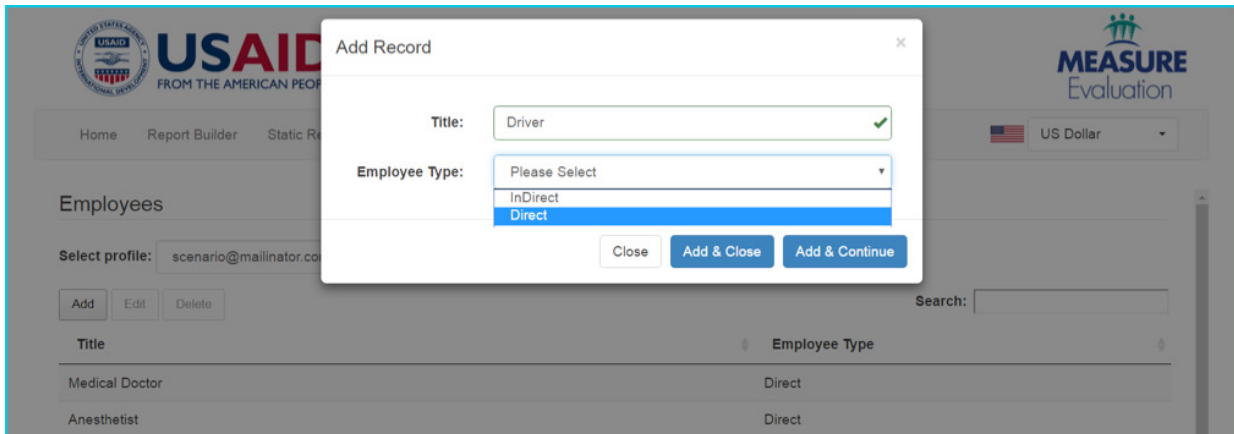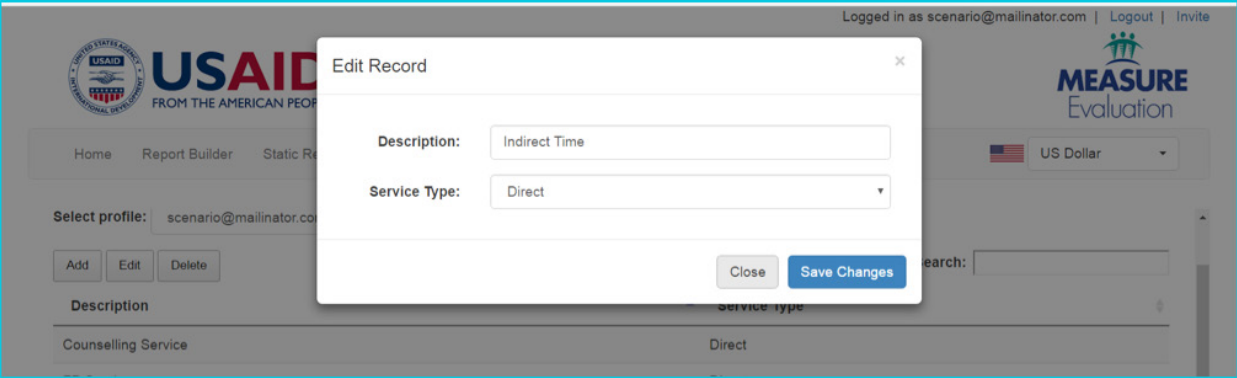

D. Service Types

Before creating the service list, you must specify the categories for the services, referred to as Service Types. Similar to the configuration for employee type, you can Add new records and Edit existing records. Each service type created should default to Direct, so users should ignore this option.
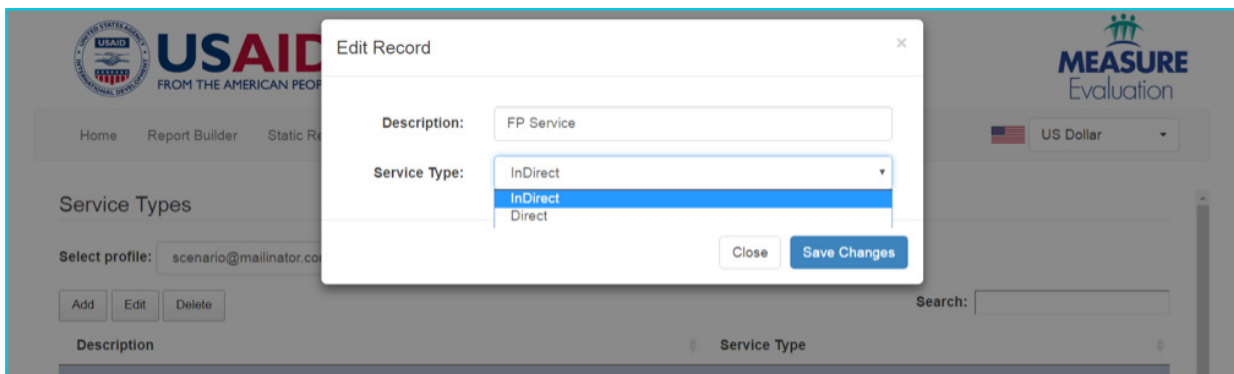
Additionally, there will be a service type called Indirect Time that is set up when a new user account is created. This category is used to house data captured on the indirect time of service providers and should be left alone.

E. Services

Once the service type categories are established, you will create the full services list, linking each service to a category to help with later analysis. There is a standard list that can be used. You can select all or a portion of the services on the standardized list and then edit entries as desired. The standardized list comes linked to a standard list of service types that can be reassigned using the edit function. When creating a new record, you must use the Add button, type in the service title, and then link it to a type. You can then save by clicking Add & Close or Add & Continue.
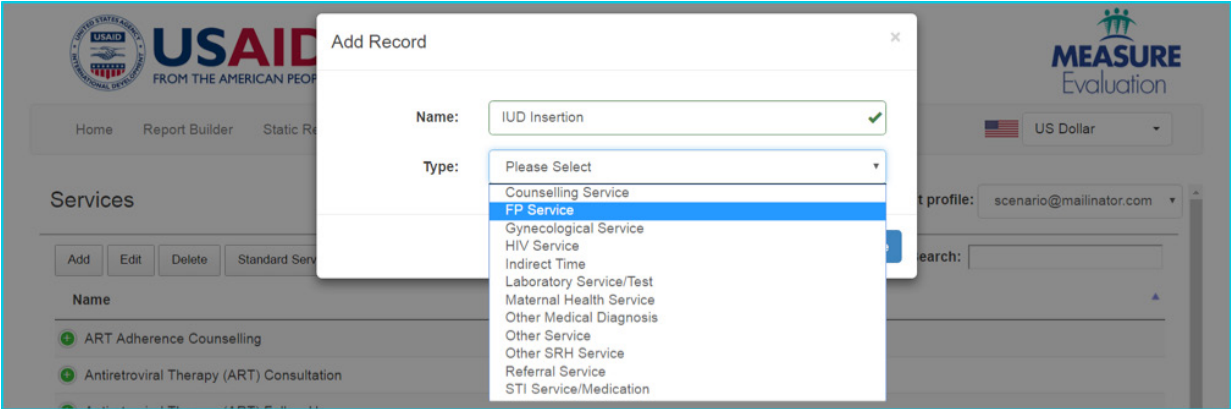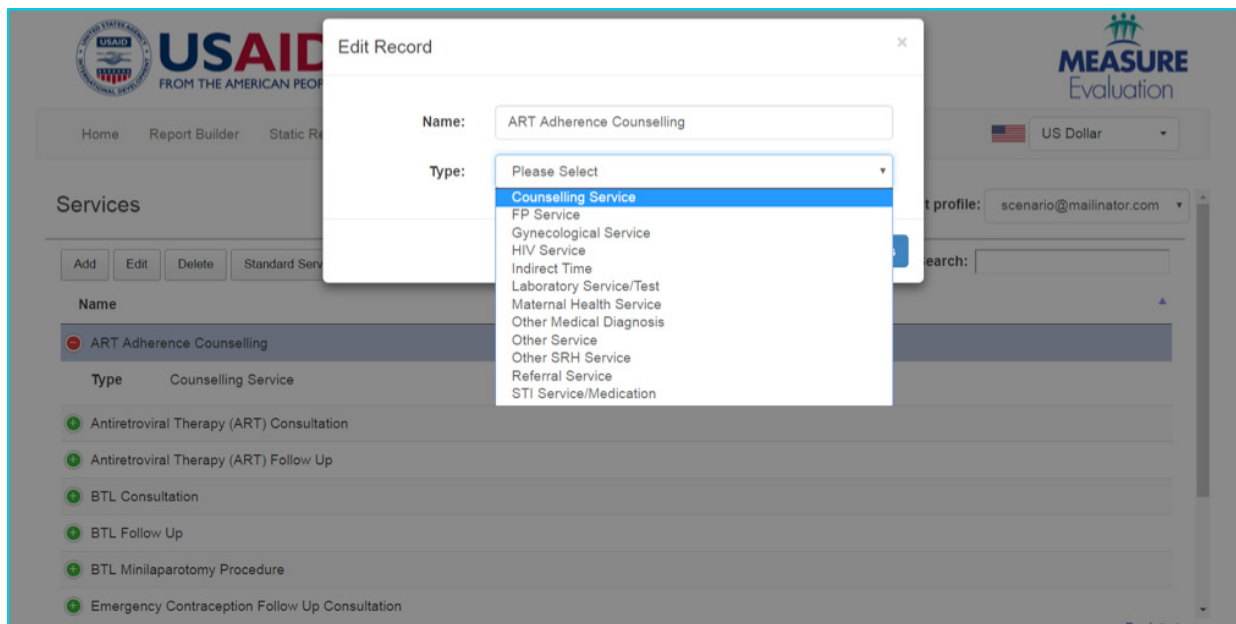
F. Commodities

Commodities function almost identically to the service configuration steps, except that you need to **select whether a commodity is directly related to a service or if it is an indirect commodity whose cost is not able to be attributed to a single service.** The images below show how you can add a new record and an image of the option to use the Standard Commodities list.
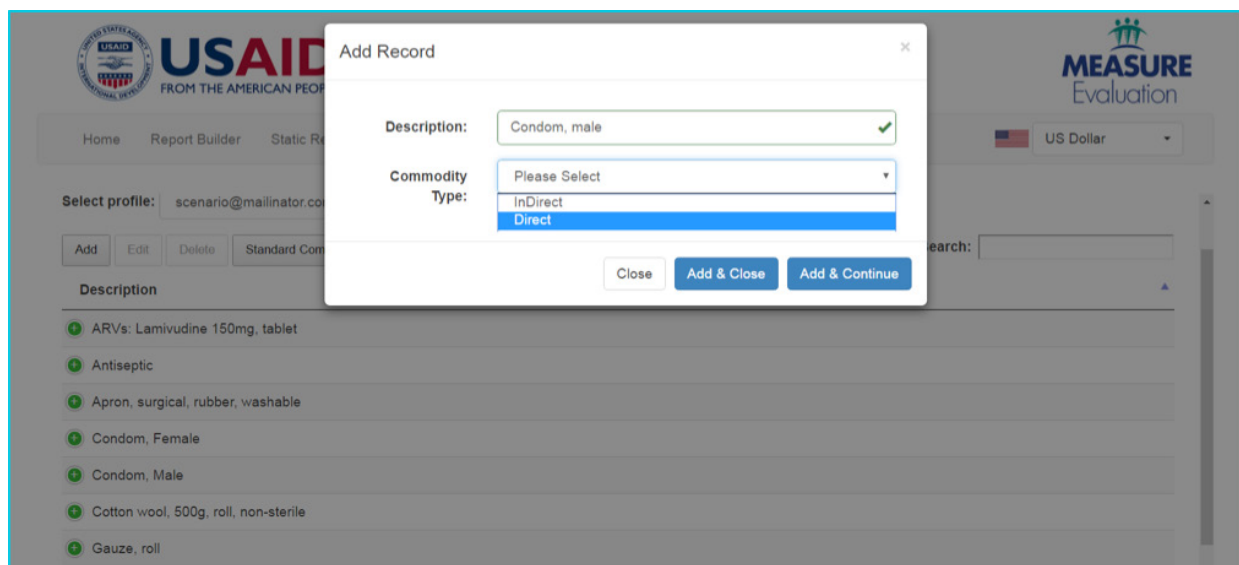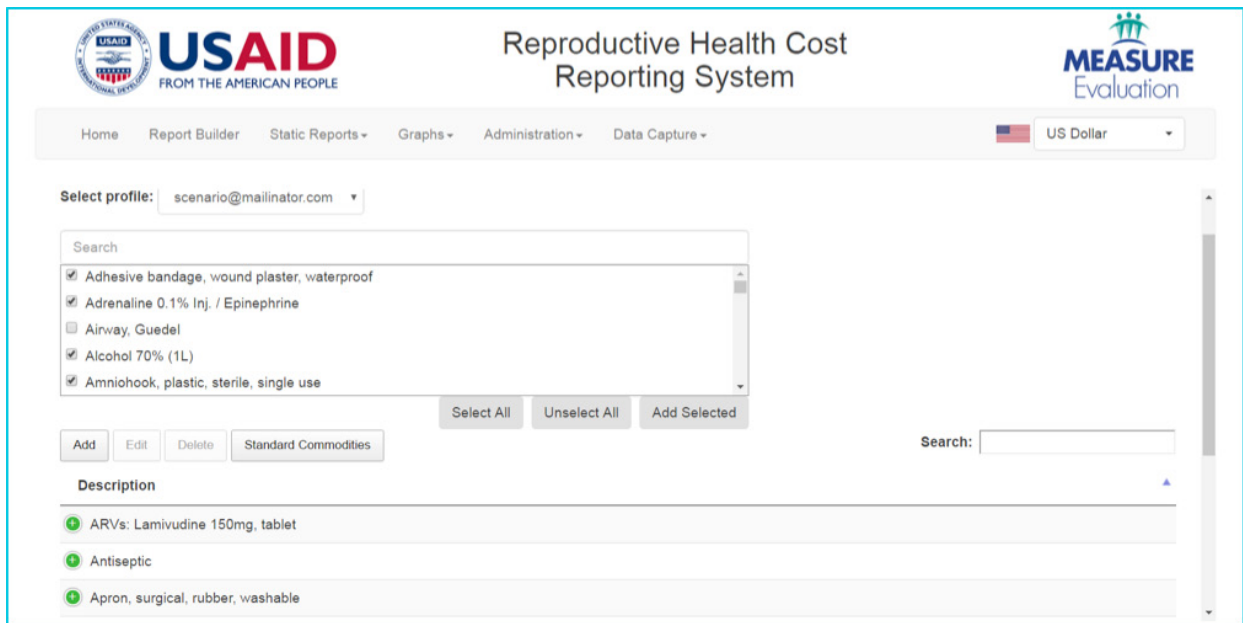
G. Capital Equipment Types

In the capital equipment section, the user will enter categories that can be used to group capital items. The user also specifies the estimated lifetime in years that the item is expected to last—the number of years specified will then be used to discount the cost of that item over time. The following are examples:

- Vehicle: 7 years
- Computer: 4 years
- Furniture: 10 years
- Miscellaneous equipment: 5 years
- Building: 15 years
- Medical equipment: 4 years
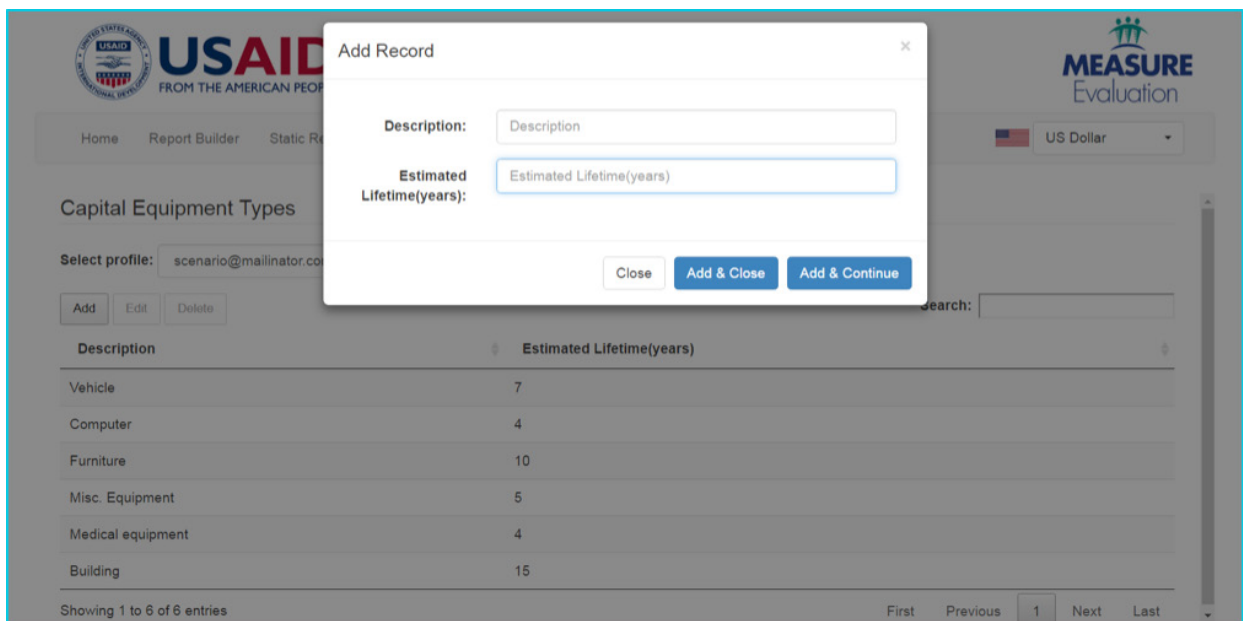
H. Recurring Costs

The last category that requires configuration is recurrent costs. Similar to the other categories, you can add new records and edit existing records, as needed. These categories do not need to be as specific as the earlier sections. We suggest the following list:

•   Building/office rent
•   Building renovation/maintenance
•   Cleaning materials
•   Electric utility
•   Equipment/furniture maintenance
•   Internet utility
•   Office supplies
•   Other recurrent cost
•   Petrol and oil
•   Photocopy/printing/publication materials
•   Telephone utility
•   Vehicle maintenance
•   Vehicle rent
•   Waste management utility
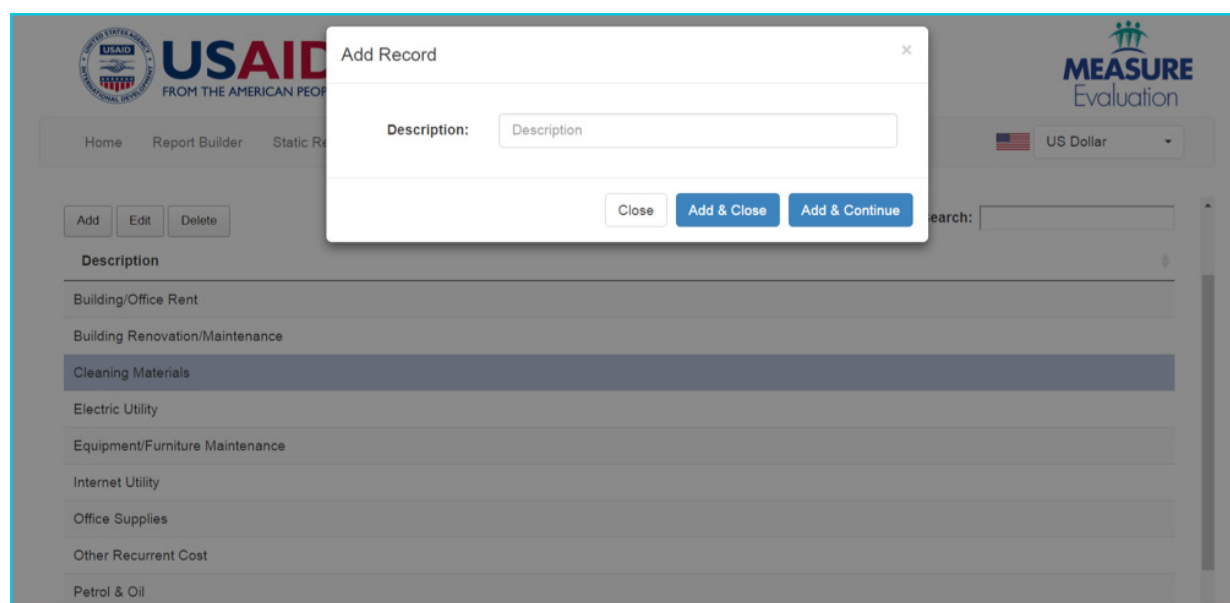
5. Enter appropriate information to customize defaults.

A. Service Commodity Management

This section allows you to customize which direct commodities are linked to specific services. Select the direct commodity from the first drop-down menu and then assign that commodity to a service. **The system allows the user to assign the cost of a commodity to multiple services—but remember that commodities split across a large number of services may be best categorized as indirect commodities.**
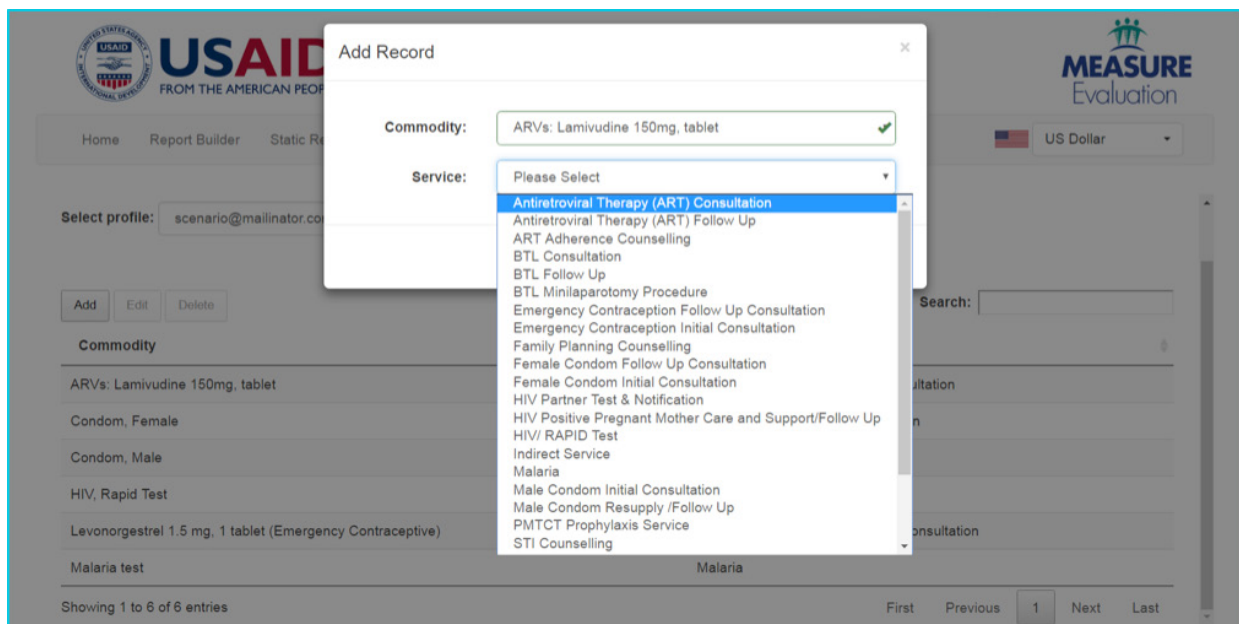
B. Employee Labor Rate

This section allows you to associate each employee type with an average salary amount. **It is important that you add a salary for every employee type option so that the calculations in the system can be done correctly.** Similar to previous sections, you add a new record, select an employee type from the drop-down menu, and then enter the annual salary amount.
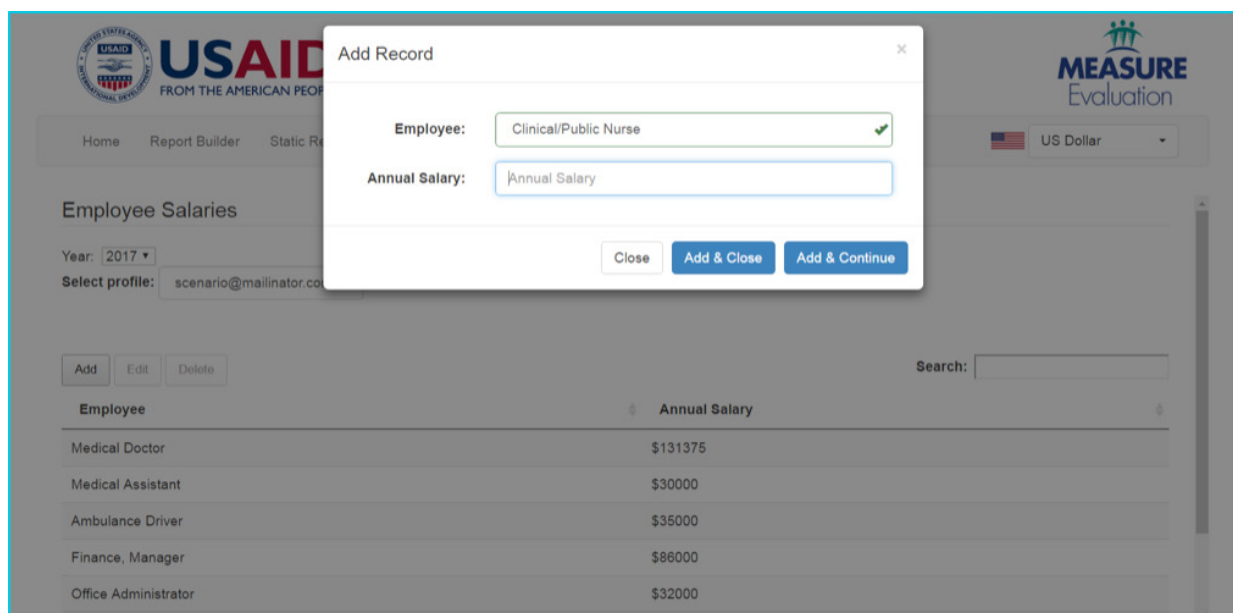
4.2. Data Capture: Site-Level Costs

After customizing the system, this stage describes how to collect the expenditures at sampled SDPs, regional/area offices, and headquarters administrative offices for the reporting period.

Information collected:

1. Capital item counts, purchase dates, and costs at all sites
2. Service delivery counts at SDPs
3. Recurrent expenses at all sites
4. Labor (direct and indirect staff presence) at all sites
5. Training expenses at all sites
6. Commodity counts and costs at SDPs

Process summary:

1. Export three customized data capture forms

   A. *Capture Form: Headquarters*
   B. *Capture Form: Area Offices*
   C. *Capture Form: SDPs*

2. Distribute data capture forms according to the previously determined data collection plan.

3. Use data capture forms to collect data from administrative and service delivery locations.

   A. *Menu*
   B. *Capital Costs (Headquarters, Area Offices, SDP forms)*
   C. *Service Delivery (SDP form only)*
   D. *Recurrent Costs (Headquarters, Area Offices, SDP forms)*
   E. *Labor (Headquarters, Area Offices, SDP forms)*
   F. *Training (Headquarters, Area Offices, SDP forms)*
   G. *Commodities (SDP form only)*

4. Upload complete Capture Forms and edit uploaded data.

Things to remember:

1. All expenses recorded in the tool should be **annual.** Remember that the system is intended to help you collect and compile costs that have **already** been incurred.

2. Administrative/headquarters sites should only record information for capital, recurrent, labor, and training expenses, while SDPs will need to report information in every category.

3. All users entering information in the Capture Forms must have a clear understanding of how to input prices and units for communities so that data are consistently collected across the organization. See the HINTS below in the Commodities data entry section.

Step-by-Step Details of the Site-Level Data Capture Process

1. Export three customized data capture forms.

Once configuration is complete, you will download the data capture forms from the Excel Templates option in the Data Capture section of the system.
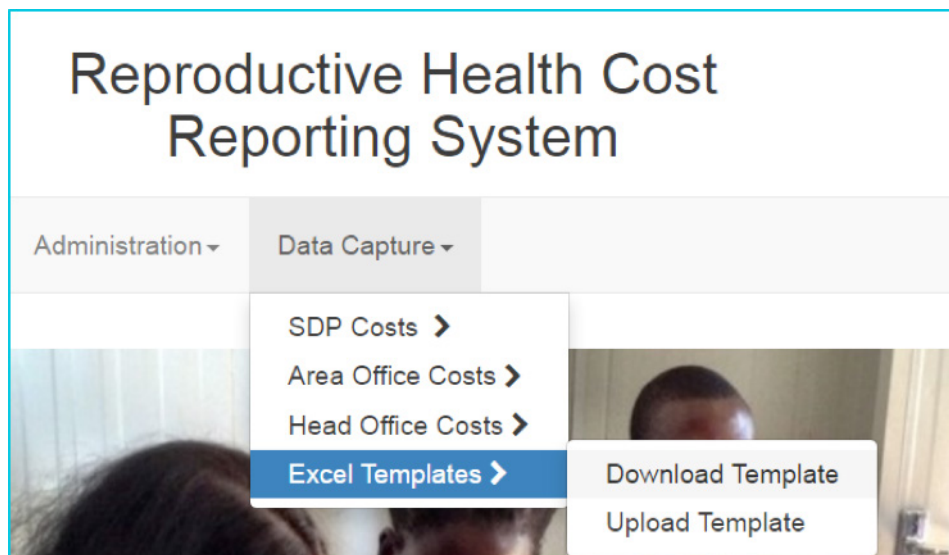
There are three forms you will use to capture site-level data:

A. Capture Form: Headquarters

This form will be used to capture the costs associated with the headquarters office. The form will require information on capital costs, recurrent costs, labor, and training.

B. Capture Form: Area Offices

This form is intended for regional offices (also called area offices) responsible for oversight or management of a specific, geographic subset of SDPs. If an area office is both administrative and provides services, staff will need to complete an Area Office AND an SDP capture form (recording only those costs specific to management of the region in the area office form). Identical to the Headquarters capture form, this file also collects information on capital costs, recurrent costs, labor, and training.

C. Capture Form: SDPs

This form is intended to be completed for every site delivering services. It collects information on capital costs, recurrent costs, labor, services, commodities, and training.

Select the template type you want to download from the menu. The download function may take some time to process. **Do not click the download button multiple times.**

When downloading the templates, any alterations made to the Configuration and List Management information will appear immediately in the capture forms available for download.

For example: You fully customize the system and download the SDP form in July. One month later, in August, you return to add a new area office in the List Management portion of the Configuration option. The added location will now be present in the SDP form when you download it from the website. The form from July will no longer be available for download unless you go in and reverse the configuration changes made in August. If you have already started entering data in the downloaded form from July, the changes made in August will only be visible in a newly downloaded file, not in the one you have been using since July.

2. **Distribute data capture forms according to the previously determined data collection plan.**

As specified in [Section 3.3,](#) each organization will need to develop an individual data collection plan that details their approach to sampling sites (if needed) and any potential training of staff on how to use the data capture forms.

3. **Use data capture forms to collect data from administrative and service delivery locations.**

A. Menu Tab

Each of the capture forms has an instructions page and menu tab. You must complete the information in the menu tab, entering the site name and region where the site is located.

HINTS:

- Completed by Headquarters, Area Offices, and all SDPs

- Once this information has been specified, use the "Save File" button to save the document with a preformatted title specific to the selected menu information. For example, the Save File function for the above image will auto-populate the following name using the Region and Service Delivery Point Name: "Area Office 1-Test Facility 1.xlsm."

B. Capital Costs (Headquarters, Area Offices, SDP Forms)

All three capture forms have a tab for collecting capital costs. To enter information in this table, start with a description of the item, followed by equipment category (e.g., vehicle, medical equipment). Then enter the quantity of that item, the unit price (original purchase price of the item or the market value upon receipt of the item if it was donated), and the date of purchase/receipt.

HINTS:

- Completed by Headquarters, Area Offices, and all SDPs

- If you have multiple items of the same type (e.g., laptops), but not all were purchased the same year or at the same price, you should enter them on separate lines. (For example, you have five laptops in total, but three were purchased in 2015 for $800 and two in 2016 for $450. You should use two lines to report these items.)

- Please note that new lines will appear once every open box from the previous line has been completed.

C. Service Delivery (SDP Form Only)

The Service Delivery tab will come prepopulated with a list of the services specified during the configuration stage. **Every SDP will need to enter the total number of times annually that a given service has been provided.**

HINTS:

- Completed only by the SDPs

- If the organization tracks service delivery by looking at new and recurring patients, this information must be combined. Prior to combining, make sure that the categories for new and recurring **visits are mutually exclusive and, therefore, represent separate visits.**

- These are not beneficiary counts, so **the same person can come for multiple service visits or even the same service more than once.**

D. Recurrent Costs (Headquarters, Area Offices, SDP Forms)

This section captures the amount spent at each site on recurrent expenses. When completing the Recurrent Costs section, select the correct category descriptor and then enter the **annual total** for all of the expenses that fall within that category that have been incurred at that site.

HINTS:

- Completed by Headquarters, Area Offices, and all SDPs

- These categories are larger groupings of specific expenses. For example, Building/Office Rent may be composed of 12 monthly payments for space rental, while Office Supplies may be ordered less frequently, on an as-needed basis. **You must aggregate the costs for each line yourself before entering that information in the system.**

E. Labor (Headquarters, Area Offices, SDP Forms)

Labour

Labour Directions: Please enter the annual number of employees that were employed at the SDP during the reporting period.

#	Title	Number
001	Ambulance Driver	0.00
002	Anesthetist	0.00
003	Clinic Manager	0.00
004	Clinical Services Coordinator	0.00
005	Clinical/Public Nurse	0.00
006	Communications Officer	0.00
007	Community Counselor	0.00
008	Customer Service & Data Clerk	0.00

This section will be pre-populated with all of the employees listed during the configuration process. Each SDP or administrative site will need to list number of staff employed during the reporting period of interest.

HINTS:

- Completed by Headquarters, Area Offices, and all SDPs

- If there are part-time staff or employees who were present for only a portion of the year, use decimal points to represent their partial presence. For example, if the SDP has one full-time driver, and one part-time driver who works approximately 20 hours per week, enter 1.5 in the Driver/Mechanic line.

F. Training (Headquarters, Area Offices, SDP Forms)

Training / SBC

Training Directions: If trainings with staff have taken place in the past calendar year, please provide the total annual expenditure of providing these trainings for this specific site.

#	Description	Annual Total
001		

If there have been site-specific trainings, of which the cost was incurred at the site level, this information can be captured in this section of the Capture Form. Enter a brief description, e.g., "Trained 25 Peer Educators on RP & FP," followed by the total amount spent on that activity.

HINTS:

- Similar to the above section on recurrent costs, multiple expenses might be added together under one line; the costs of travel reimbursement, food, venue, and accommodation may be added under one line.

- Completed by Headquarters, Area Offices, and all SDPs.

- Most of the training costs will hosted by the Headquarters and Area Offices, so even if SDP staff received trainings hosted at these locations, these trainings should not be listed for individual SDPs unless that site was responsible for incurring specific costs for the training.

G. Commodities (SDP Form Only)

COMMODITY COSTS

Directions: Please enter the quantities and unit prices annually used for Commodities at the SDP. Direct will specify that the commodity is used in the rendering of 1 direct service.

#	Commodities	Direct	Quantity	Unit Price	Total Annual Cost
001	Adhesive bandage, wound plaster, waterproof	FALSE			0.00
002	Adrenaline 0.1% Inj. / Epinephrine	FALSE			0.00
003	Airway, Guedel	FALSE			0.00
004	Alcohol 70% (1L)	FALSE			0.00
005	Amniohook, plastic, sterile, single use	FALSE			0.00
006	Amoxicillin trihydrate 250mg, capsule	FALSE			0.00
007	Amoxicillin trihydrate 500mg, capsule	FALSE			0.00
008	Amoxicillin trihydrate suspension 250mg/5ml in 100ml	FALSE			0.00
009	Ampicillin sodium 1000mg, powder for injection	FALSE			0.00
010	Ampicillin sodium 500mg powder for injection in 1	FALSE			0.00

The Commodities section of the SDP Capture Form will come prepopulated with the commodity list created during the configuration process. For each SDP, specify the quantity and unit price for all commodities used at that site during the reporting period. Please ignore the information in the Direct column, as this information should already have been set up during configuration.

HINTS:

- Commodity items will vary in volume size and packaging amount. Those entering the unit price must make sure to properly account for the quantity. Ideally, you should record commodities using a unit cost, or the cost for a single unit of an item. For example, if the commodity list says "condoms, male" and this refers to individual condoms, procurement records listing 200 boxes of 1,000 male condoms, costing $200 each, should be recorded as 200,000 male condoms at $0.20 each. This information could also be listed as 200 male condoms at $200 apiece. Regardless of the format used, it important that the quantity and the price be listed in a consistent fashion.

- Completed only by the SDPs.

4. Upload complete Capture Forms and edit uploaded data.

Once a Capture File is completed and data are entered into the appropriate sections, the file is ready to be uploaded to the system. Only users with the Data Capture and Administrator capabilities will be authorized to upload files.
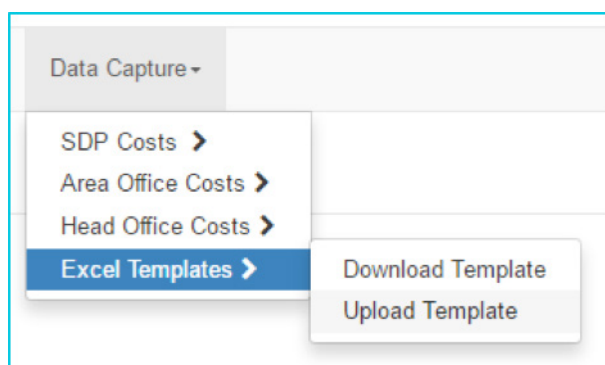
To upload, go to the Data Capture section titled Excel Templates and click Upload Template. For invited users, the profile option should default to the primary user; if it does not, be sure to specify the correct profile account. Then select the type of template being uploaded (Headquarters, Area Office, or SDP) and the related file.
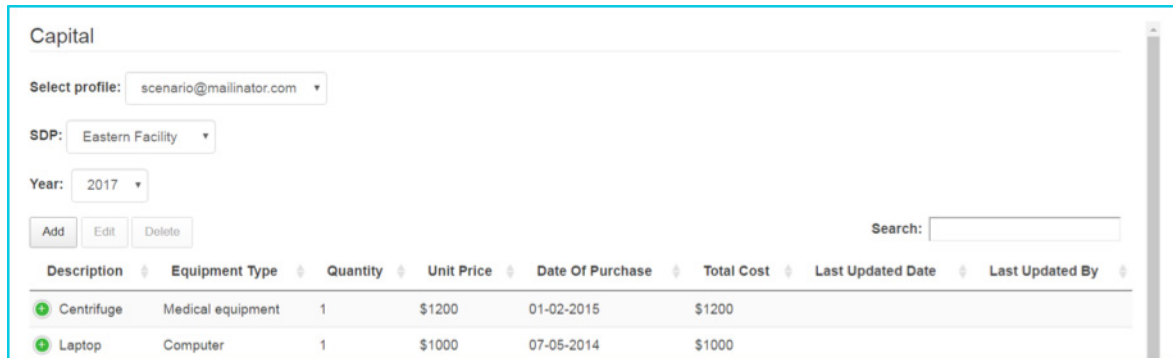
Once the upload is complete, the system will notify you that the upload was successful. To view uploaded information, go to the Data Capture section. Uploaded information will be grouped by type of cost for each of the different site/capture form types. You must select the appropriate user profile, site information, and reporting period (listed as specific years) to see the associated information. To see all of the information from one capture file, you will need to navigate through each cost category separately.
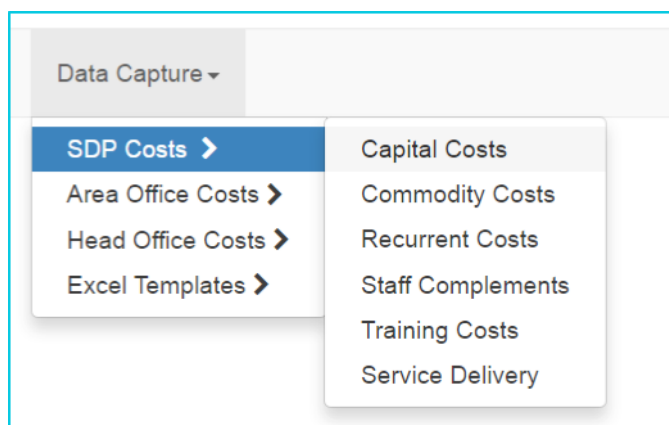
You have two options for editing information that has been uploaded but needs to be changed:

1. You can edit the Capture Files and re-upload them to the system. Any changes that have been made will be overwritten.

2. You can edit specific lines in the RHCRS in the Data Capture section. The screenshot below shows the information for a specific SDP and reporting period. To edit a specific line, click on the line of interest. When the line turns gray, you will be able to select the edit or delete options listed below the reporting period. You can then edit any of the information listed on that line, and the date of the update and user associated with that update will be recorded in the last two columns.

4.3. Data Capture: Time and Labor Study

The Time and Labor study involves surveying employees engaged in direct service to assess how much time is spent delivering services. This section outlines the process for collecting this type of data.

Information collected:

1. Time in minutes that different types of direct employees spend delivering each service

2. Time in minutes that different types of direct employees spend without patients each day

Process summary:

1. Export the customized Time and Labor Capture Form.

2. Distribute the Capture form to staff according to the previously determined data collection plan.

3. Use the capture form to survey service providers on the amount of time they spend delivering specific services.

4. Upload the complete Capture forms.

5. View and edit uploaded data in the Employee Service Time section.

Things to remember:

1. Unlike the site-level capture forms, the Time and Labor Capture Form does not need to be collected for every site. You can capture a maximum of 15 provider interviews on one form, and multiple forms can be uploaded for each site. This allows multiple people to conduct interviews with staff at a single site. **Each independent upload is then added to the system without overwriting prior information from the same site. Instead, the new information is added to the averages being calculated for each provider type.**

2. Time and Labor forms can be uploaded as you go. **Forms with distinct information should only be uploaded once.** Edits or corrections to entries can be made in the RHCRS online platform.

Step-by-Step Details of the Time and Labor Data Capture Process

1. Export the customized Time and Labor Capture Form.

This process is identical to the process used for the other capture forms. In the Data Capture section, select Excel Template Download. On the Template Download page, select the Time and Labor template from the menu. Make sure that the primary user's account is selected. The download function may take some time to process; do not click the download button multiple times.
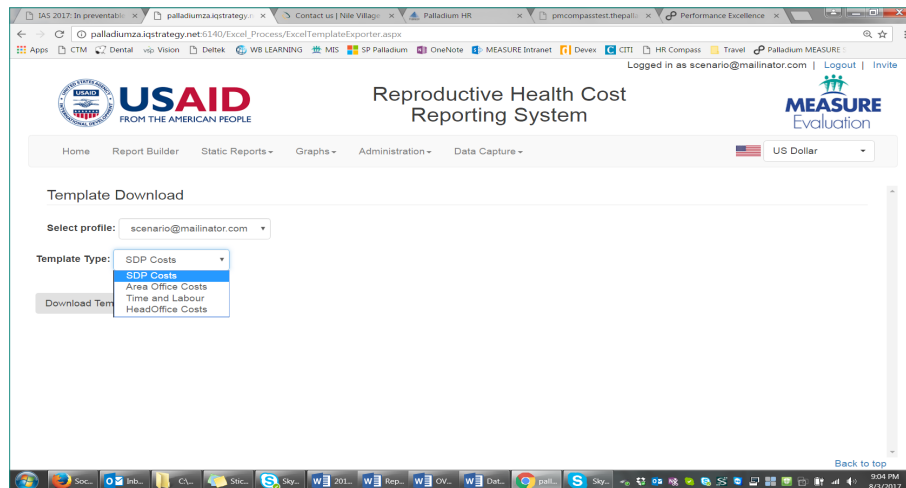
Remember when downloading the templates that any alterations made to the Configuration and List Management information will appear immediately in the capture forms available for download.

For example: You fully customize the system and download the SDP form in July. One month later, you return to add a new staff type in the List Management portion of the Configuration option. The added staff type will now be present in the Time and Labor capture form when you download it from the website. The form from July will no longer be available for download unless you go in and reverse the configuration changes made in August.

2. Distribute the capture form according to the previously determined data collection plan.

As specified in Section 3.3, each organization will need to develop an individual data collection plan that details their approach to sampling staff for the time and labor survey and any potential training of staff on how to use the data capture form. The Time and Labor Form will be used to survey service providers on the amount of time they spend delivering specific services.

3. Use the capture form to survey service providers on the amount of time they spend delivering specific services.

A. Interviewers should first specify the SDP name where the interviews are going to be conducted. They also need to specify the reporting year.

Directions: Please use the drop down menu below to specify the service delivery point where you are conducting interviews. Please save a new file for every SDP at which you conduct labor and time interviews. See the full guidance document for specific details about how to sample clinicians, interview protocol and consent, and other important information necessary for completing the time and labor data collection process.

Service Delivery Point Name: _____

Reporting Period: 2017 ▾

B. Interviewers should begin by telling the provider briefly about the reason for the interview:

"We are surveying service providers so that we can better assess how much our organization spends on individual services. Information about the time you spend delivering services will help us to make more accurate calculations. This interview should take no more than 30 minutes. Your name and personal information will not be included in the data collected, only your position information and the answers you provide."

C. Ascertain consent: "Do you agree to participate in the interview?"

D. In the capture form, each numbered column represents a single interview, so information is entered down. Begin by entering the following information:

• Interview date

• Initials of the interviewer

• Staff category of person you are interviewing

Labor Time Study

Directions: To fill out this form, start by entering the date of the interview and the initials of the interviewer. Then choose the type of direct service provider that is being interviewed. Then ask the employee **the amount of time, in hours,** each employee spends with patients each day. You will then, in interview form, go down the list of services and ask each clinicians **the amount of time, in minutes, they spend per client per service.** The categories for each service is listed to the right of each service. If an employee is not involved in a specific type of services (ie. a lab technician will not spend time counselling and a counselor will not spend time conducting lab tests), you may skip these services during the interview. For all services an employee does not provide, be sure to enter a zero. Please see the full guidance document for specific details about how to sample clinicians, interview protocol and consent, and other important information necessary for completing the time and labor data collection process.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Interview #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Interview Date	9/14/2017	9/14/2017	9/15/2017	9/15/2017											
	Interviewer Initials	SSF	SSF	SSF	SSF											
	Type of Staff	Medical Doctor	Clinical/Public Nurse	Health/Peer Educator	Lab Technician											
How many **minutes** per day do you spend **not** with patients?		50	30	180	30											
How many **minutes** do you spend providing the following services?		Self-reported Time Spent per Service in Minutes														
1 ART Adherence Counselling	Counselling Service	10	30	40	0											
2 HIV Testing & Counselling	HIV Service	15	20	40	0											

E. Use the Capture Form to guide the rest of the interview:

First, ask the provider, "How many **minutes** per day do you spend **not** with patients?" Enter the response in the yellow box below where you entered the type of staff information.

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HINTS:

- If the individual reports a lot of variation, ask them to estimate an average amount of time.

- For laboratory staff who do not directly spend time with patients, you may alter the question slightly and ask, "How many minutes per day do you spend not running lab tests (e.g., doing paperwork or other work)?"

Second, you will go line-by-line through the list of services and for each service ask, "How many minutes do you spending providing [service X] to each client?" Enter each response in the column associated with the current interview.

HINTS:

Once again, you are asking for **an average number of minutes,** so if someone reports a lot of variation in the time it takes them to provide a service like family planning counseling, push them to estimate an average number of minutes.

- If an interviewee never provides a specific type of service, enter zero.

- The services are grouped by type. If a specific provider is never involved in specific services (e.g., a laboratory technician is never involved in any type of counseling service, or a peer educator is never involved in HIV testing services), the interviewer may choose to skip those service types that are obviously unrelated to a person's role. If you are uncertain about whether or not a provider is involved in certain types of services, always ask. As stated above, if an interviewee never provides a service, enter zero.

4. Upload the completed data capture forms.
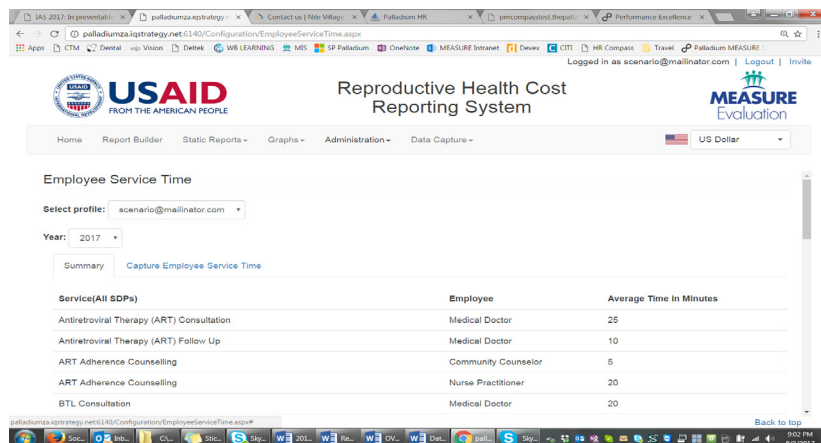
This process is identical to the process described for the other capture forms described above. Go to the Data Capture section labeled Excel Templates and click on Upload Template.

5. View and edit uploaded data in the Employee Service Time section.

Once Time and Labor capture form(s) have been uploaded, you can go to the Employee Service Time option listed under Administration --> Configuration. Once on this page, you will specify the reporting year of interest. You then have two tabs for viewing related time and labor data.

Summary Option:

The summary displays the system's calculations for the average time each employee type spends per service.

Capture Employee Service Time Option:

The capture page shows the minutes spent per service as it was recorded and uploaded for every provider interview. The data are sorted by SDP, so you will need to select the SDP for which you wish to view data. Similar to the above data edit option available in the other data capture forms, you can also select an entry to edit the information or delete the entry entirely.

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4.4. Data Review and Analysis

> The final component of the RHCRS is using the database and dashboard to review, analyze, and understand the data that have been collected.

Data presentation and analysis

The RHCRS is ultimately designed to estimate the cost of providing a service to a client on an annual basis. Once the captured data are uploaded to the RHCRS website, the system automatically calculates cost-per-service-per-client at a number of different levels. At the same time, you can review the data that are uploaded in the system to check for errors.

There are three categories of reports the system can produce:

1. Raw reports of the data collected, under *Report Builder*

2. Reports of the cost per service, under *Static Reports*

3. Graphs and visualizations of the information compiled in the reports, under Graphs

Things to remember:

1. The system will begin calculating results immediately. It is up to you to ensure that the necessary information is entered. For example, there must be an annual salary entered for every employee type that is reported present anywhere across the organization, or the system will calculate using a zero value for that employee.

2. The raw reports allow you to download Excel documents with the data. Otherwise, the information contained in this section should be identical to information in the Data Capture section.

Step-by-Step Details of Data Review and Analysis

There are aspects of RHCRS that have been developed to help you view and understand the final calculations prepared by the system. This section provides additional detail on how to access raw data exports to Excel, how to view five types of reports that break down cost per service calculations in various ways, and how to explore and view three graphic presentations of the data.

1. Report Builder

The first RHCRS review options are the raw reports presented under Report Builder. In this section, you can view raw reports of the data uploaded and edited in the system, using the cost element groupings under which the information was collected.

2. Static Reports

The second analysis tool in the RHCRS are the results reports, which present various was of viewing the cost per service calculations made by the system. There are five reports in total. For each report, you will need to select the year and the appropriate profile prior to clicking Run Report. Every report can be downloaded to Excel to be further manipulated.

A. Cost per Service by Region

This report shows the cost of each service by region/Area Office. Line 1 can be interpreted as "The average cost of providing an antiretroviral therapy (ART) consultation in Area Office/Region 1 is $72.65."

Average cost by region				▼ Filter
Area Office	Service	SDP Count	Total Cost	Average Cost
Area Office 1	Antiretroviral Therapy (ART) Consultation	2	$145.30	$72.65
Area Office 1	Antiretroviral Therapy (ART) Follow Up	2	$110.72	$55.36
Area Office 1	ART Adherence Counselling	2	$89.66	$44.83
Area Office 1	BTL Consultation	2	$131.76	$65.88
Area Office 1	BTL Follow Up	2	$100.18	$50.09
Area Office 1	BTL Minilaparotomy Procedure	2	$89.66	$44.83
Area Office 1	Emergency Contraception Follow Up Consultation	2	$89.66	$44.83

B. Cost per Service by Element

This report breaks down by cost element for the cost of each service across all sites and regions. The first line can be interpreted as: "The average cost of providing an antiretroviral therapy (ART) consultation across the entire organization is $300.62, with $249.72 of the average cost driven by just the cost of commodities."

Average cost of service per element								▼ Filter
art	Service Count	Labour	Capital	Commodity	Recurring	Training	Overhead	Total
Antiretroviral Therapy (ART) Consultation	1205	$48.27	$0.90	$249.72	$1.61	$0.13	$0.00	$300.62
Antiretroviral Therapy (ART) Follow Up	1115	$32.48	$0.90	$211.09	$1.61	$0.13	$0.00	$246.20
ART Adherence Counselling	522	$21.95	$0.90	$211.09	$1.61	$0.13	$0.00	$235.67
HIV Partner Test & Notification	613	$43.00	$0.90	$211.09	$1.61	$0.13	$0.00	$256.73

C. Cost per Service by Element for All SDPs

This report provides the same breakdown by cost element for the cost of providing each service at each SDP. You can use the filter option at the top to see specific services compared across sites. The first line can be interpreted as: "The cost of providing an antiretroviral therapy (ART) consultation at the Eastern Facility is $89.22. This cost is driven by the cost of labor and commodities, which cost $58.46 and $26.78, respectively."

Average cost of service per element by SDP									▼ Filter
SDP	Service	Service Count	Labour	Capital	Commodity	Recurring	Training	Overhead	Total Cost Per Service
Eastern Facility	Antiretroviral Therapy (ART) Consultation	75	$58.46	$1.50	$26.78	$2.32	$0.16	$0.00	$89.22
Eastern Facility	Antiretroviral Therapy (ART) Follow Up	58	$42.67	$1.50	$25.28	$2.32	$0.16	$0.00	$71.93
Eastern Facility	ART Adherence Counselling	164	$32.14	$1.50	$25.28	$2.32	$0.16	$0.00	$61.40
Eastern Facility	BTL Consultation	55	$53.19	$1.50	$25.28	$2.32	$0.16	$0.00	$82.45
Eastern Facility	BTL Follow Up	41	$37.40	$1.50	$25.28	$2.32	$0.16	$0.00	$66.66
Eastern Facility	BTL Minilaparotomy Procedure	45	$32.14	$1.50	$25.28	$2.32	$0.16	$0.00	$61.40

D. Cost per Service by SDP

This report provides the same information as the above report but without the breakdown by cost element. The first line can be interpreted as: "The cost of providing an antiretroviral therapy (ART) consultation at the Eastern Facility is $89.22."

Average cost by SDP			▼ Filter
SDP	Service	Service Count	Avg Cost Of Service
Eastern Facility	Antiretroviral Therapy (ART) Consultation	75	$89.22
Eastern Facility	Antiretroviral Therapy (ART) Follow Up	58	$71.93
Eastern Facility	ART Adherence Counselling	164	$61.40
Eastern Facility	BTL Consultation	55	$82.45
Eastern Facility	BTL Follow Up	41	$66.66

E. Cost per Service (All SDPs)

This report provides the same information as Report B, but without the breakdown by cost element. The first line can be interpreted as: "The average cost of providing an antiretroviral therapy (ART) consultation across the entire organization is $300.62."

Average cost of service		▼ Filter
Service name	Service count	Total
Antiretroviral Therapy (ART) Consultation	1205	$300.62
Antiretroviral Therapy (ART) Follow Up	1115	$246.20
ART Adherence Counselling	522	$235.67
BTL Consultation	920	$55.14
BTL Follow Up	627	$39.35

3. Graphs and Visualizations

The graphics presented by the system report the same information that is compiled in the Static Reports.

A. Total Services Breakdown per SDP

This graphic provides a visual breakdown of the service counts provided by the organization at each facility. The user selects the year and the SDP. The system then produces pie charts displaying the counts for each service provided (hover the cursor over each section of the pie to see details).
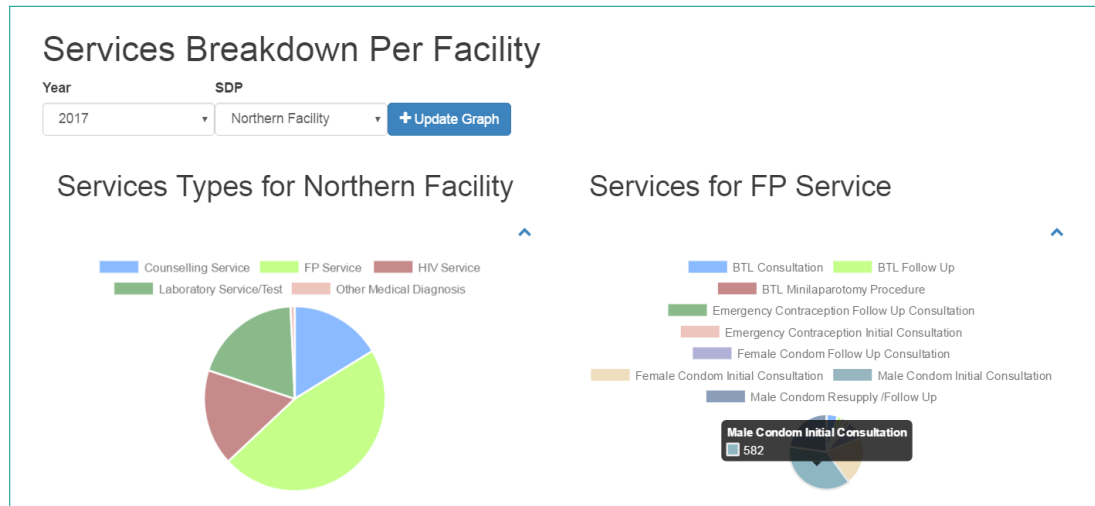
B. Cost of One Service Across SDPs

This option provides a bar chart displaying the cost per service for a single service across multiple SDPs. The colors on each bar represent the different cost elements. In this example, we can see that the cost of a BTL procedure is largely driven by the cost of labor, except at the Eastern Facility, where the cost of commodities appears unduly high. When you hover the cursor over each color block, the cost element and price will appear.

C. Cost per Service at One SDP

The last graphic is a second bar chart that displays the cost for multiple services at a single SDP. Select the year, facility, and service type. You can then select specific services within that service type to compare the cost. Similar to the other graphics, you can hover the cursor over each color block to see the cost element and price.
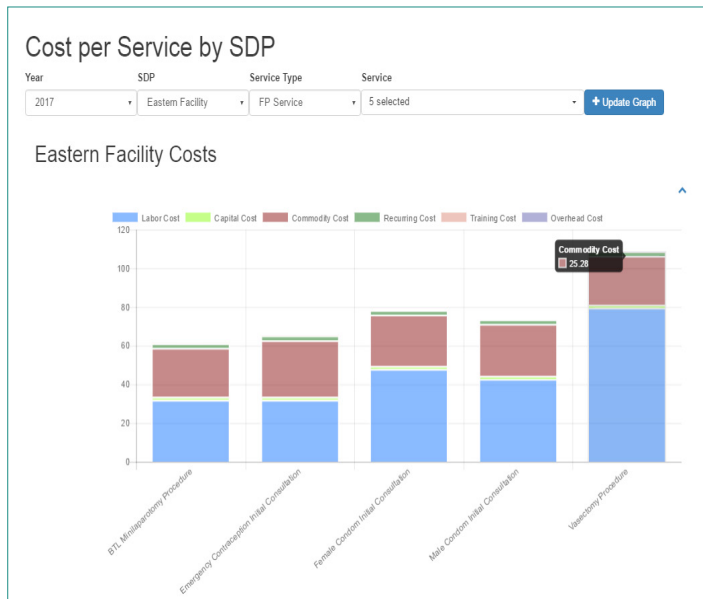
5. ADDITIONAL INFORMATION

5.1. Assumptions and Limitations

While the RHCRS is useful for answering the research questions deemed a good fit in the pre-capture assessment form, it is important to remember that cost data should not be the only determining factor when making programmatic decisions. Information on cost per service and cost drivers should be balanced with a variety of other program data, including quality of the services delivered and consumer demand and choice (Janowitz & Bratt, 1994.

The system is capable of handling cost data from programs that provide family planning services, in addition to preventative or general medicine services. At this time, the system has not been tested with data for organizations providing only general medical services or other specific service groupings (such as HIV treatment), but the configuration process allows organizations to use the system flexibly and in a way that should enable nonfamily planning service-provision organizations to potentially use the system with minor adjustments.

5.2. System Equations

This section provides information on how the RHCRS calculates the costs of services at various levels of disaggregation.

Cost elements in this system include the following:

1. *Direct and indirect labor costs*
2. *Direct and indirect commodity costs*
3. *Recurrent costs*
4. *Staff training and professional development*
5. *Capital costs*

Recall that costs for the costing system were disaggregated into specific cost elements at the SDP, Area Office (AO), and Headquarters (HQ) levels. Figure 1 is an example of how costs are allocated for a single cost element—recurrent costs—for services. In the case of a cost element composed both of indirect and direct elements, the cost comprises direct and indirect values at the SDP level, in addition to the costs contributed by the Area Office and Headquarters.

Figure 1. Example of allocation of recurrent costs for services

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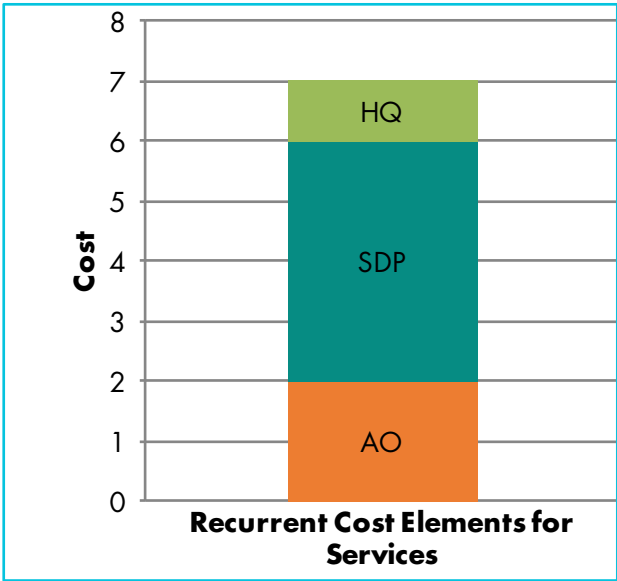
1. Cost Element Calculations

A. Labor

Total labor cost per service

$$L_{t,s} = \sum (L_{d,s} + L_{i,s} + L_{ao,s} + L_{hq,s})$$

Where:

$L_{t,s}$ = total labor cost per service (s)
$L_{d,s}$ = cost of direct labor for clinic (d), service s
$L_{i,s}$ = cost of indirect labor for clinic (i), service (s)
$L_{ao,s}$ = indirect labor costs for an areo office (ao) per service (s)
$L_{hq,s}$ = indirect labor costs for headquarters (hq) per service (s)

Cost of direct labor per service per SDP

$$L_{d,s} = (l_{ne,c} \times t_{ne,s} \times w_{ne})$$

Where:

$L_{d,s}$ = cost of direct labor by service for clinic (d), service (s)
$l_{ne,c}$ = number of staff who provided direct services in clinic (c), type (ne)
$t_{ne,s}$ = average time for staff type (ne) to perform service (s), in minutes
w_{ne} = cost per minute of staff type (ne)

Cost of indirect labor per service per SDP

$$L_{c,s=} \left\{ \sum l_{ns,c} \times w_{n,s} \right\} \div P_c$$

Where:

$L_{i,s}$ = cost of indirect labor for clinic (i), service (s)
$l_{ns,c}$ = number of staff who provided indirect services in clinic (c), type (ns)
$w_{ns,s}$ = annual salary for indirect staff (ns) at clinic (c)
P_c = total number of services in clinic (c)

AO allocation rule for indirect labor—cost per service

$$L_{ao} = \frac{v_{ao}}{P_{ao}}$$

Where:

$L_{ao,s}$ = indirect labor costs for an areo office (ao) per service (s)
v_{ao} = total annual indirect labor costs at area office (ao)
$P_{ao,}$ = total number of services across SDPs in area office (ao)

HQ allocation rule for indirect labor—cost per service

$$L_{hq,s} = \frac{v_{hq}}{P_{hq}}$$

Where:

$L_{hq,s}$ = indirect labor costs for headquarters (hq) per service (s)
v_{hq} = total annual indirect labor costs at headquarters (hq)
P_{hq} = total number of services across all SDPs (hq)

B. Capital Costs

Total capital cost per service

$$K_{t,s} = \sum (K_{c,s} + K_{ao,s} + K_{hq,s})$$

Where:

$K_{t,s}$ = total capital costs per service (s)
$K_{c,s}$ = capital costs per service (s) per clinic (c)
$K_{ao,s}$ = capital costs per service (s) for area office (ao)
$K_{hq,s}$ = capital costs for headquarters (hq) per service (s)

SDP allocation rule for capital costs—cost per service

$$K_{c,s} = \frac{c_c}{P_c}$$

Where:

$K_{c,s}$ = capital costs per service (s) per clinic (c)
c_c = total capital costs for clinic (c)
P_c = total number of services in clinic (c)

AO allocation rule for capital costs—cost per service

$$K_{ao,s} = \frac{c_{ao}}{P_{ao}}$$

Where:

$K_{ao,s}$ = capital costs per service, (s) for area office (ao)
c_{ao} = total capital costs at area office (ao)
P_{ao} = total number of services in area office (ao)

HQ allocation rule for capital costs—cost per service

$$K_{hq,s} = \frac{c_{hq}}{P_{hq}}$$

Where:

$K_{hq,s}$ = capital costs for headquarters (hq) per service (s)
c_{hq} = total icapital costs at headquarters (hq)
$P_{hq,}$ = total number of services across all SDPs (hq)

C. Recurrent Costs

Total recurrent costs per service

$$R_{t,s} = \sum (R_{c,s} + R_{ao,s} + R_{hq,s})$$

Where:

$R_{t,s}$ = total recurrent costs per service (s)
$R_{c,s}$ = recurrent costs per service (s) per clinic (c)
$R_{ao,s}$ = recurrent costs per service (s) for area office (ao)
$R_{hq,s}$ = recurrent costs for headquarters (hq) per service (s)

SDP allocation rule for recurrent costs—cost per service

$$R_{c,s} = \frac{b_c}{P_c}$$

Where:

$R_{c,s}$ = recurrent costs per service (s) per clinic (c)
b_c = total capital costs for clinic c
P_c = total number of services in clinic (c)

AO allocation rule for recurrent costs—cost per service

$$R_{ao,s} = \frac{b_{ao}}{P_{ao}}$$

Where:

$R_{ao,s}$ = recurrent costs per service, (s) for area office (ao)
b_{ao} = total capital costs at area office (ao)
P_{ao} = total number of services (s) in area office (ao)

HQ allocation rule for recurrent costs—cost per service

$$R_{hq,s} = \frac{b_{hq}}{P_{hq}}$$

Where:

$R_{hq,s}$ = capital costs for headquarters (hq) per service (s)
b_{hq} = total capital costs at headquarters (hq)
P_{hq} = total number of services across all SDPs (hq)

D. Commodities

Total commodity cost per service

$$M_{t,s} = \sum (M_{d,s} + M_{i,s})$$

Where:

$M_{t,s}$ = total commodity cost per service (s)
$M_{d,s}$ = cost of direct commodities for clinic (d), service (s)
$M_{c,s}$ = cost of indirect commodities for clinic (c), service (s)

Cost of direct commodities per service per SDP

$$M_{d,s} = \frac{a_{d,s}}{P_{c,s}}$$

Where:

$M_{d,s}$ = cost of direct commodities (d) for service s
$a_{d,s}$ = total cost of direct commodities (d) for serivce (s)
P_c = total number of service provided in clininc (c)

Cost of indirect commodities per service per SDP

$$M_{i,s} = \frac{a_i}{P_{s,c}}$$

Where:

$M_{i,s}$ = cost of indirect commodities for clinic (i) per service (s)
a_i = total cost of indirect commodities for clinic (c)
P_c = total number of services in clinic (c)

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E. Training Costs

Total of training cost per service

$$T_{t,s} = \sum (T_{c,s} + T_{ao,s} + T_{hq,s})$$

Where:

$T_{t,s}$ = total training costs per service (s)
$T_{c,s}$ = training costs per service (s) per clinic (c)
$T_{ao,s}$ = training costs per service (s) for area office (ao)
$T_{hq,s}$ = training costs for headquarters (hq) per service (s)

SDP allocation rule for training costs—cost per service

$$T_{t,s} = \sum (T_{c,s} + T_{ao,s} + T_{hq,s})$$

Where:

$T_{t,s}$ = total training costs per service (s)
$T_{c,s}$ = training costs per service (s) per clinic (c)
$T_{ao,s}$ = training costs per service (s) for area office (ao)
$T_{hq,s}$ = training costs for headquarters (hq) per service (s)

AO allocation rule for training costs—cost per service

$$T_{ao,s} = \frac{x_{ao}}{P_{ao}}$$

Where:

$T_{ao,s}$ = training costs per service, (s) for area office (ao)
x_{ao} = total training costs at area office (ao)
P_{ao} = total number of services in area office (ao)

HQ allocation rule for training costs—cost per service

$$T_{hq,s} = \frac{x_{hq}}{P_{hq}}$$

Where:

$T_{hq,s}$ = training costs for headquarters (hq) per service (s)
x_{hq} = total training costs at headquarters (hq)
P_{hq} = total number of services across all SDPs (hq)

2. Cost per Service Calculations

A. Cost per Service per SDP

$$CPS_{s,c} = \sum (L_{t,s} + K_{t,s} + R_{t,s} + T_{t,s} + M_{t,s})$$

Where:

$CPS_{s,c} = $ cost per service for service (s) at clinic (c)
$L_{t,s} = $ total labor cost per service (s)
$K_{t,s} = $ total capital costs per service (s)
$R_{t,s} = $ total recurrent costs per service (s)
$T_{t,s} = $ total training costs per service (s)
$M_{t,s} = $ total commodity cost per service (s)

B. Cost per Service per Area Office

$$CPS_{s,ao} = \sum (CPS_{s,ao}) \div q_{ao}$$

Where:

$CPS_{s,ao} = $ cost per service for service (s) for area office (ao)
$CPS_{s,ao} = $ cost per service for service (s) at clinics in area office (ao)
$q_{ao} = $ count of clinics in area office (ao)

C. Cost per Service across all SDPs

$$CPS_{s,hq} = \sum (CPS_{s,hq}) \div q_{hq}$$

Where:

$CPS_{s,hq} = $ cost per service for service (s) for all area offices (hq)
$CPS_{s,hq} = $ cost per service for service (s) for all area offices (hq)
$q_{hq} = $ count of area offices (hq)

5.3. Glossary of Relevant Terms

Service delivery point (SDP)

At a multisite organization, an SDP is a single site that provides healthcare services. Services can be clinical (e.g., IUD insertion) or nonclinical (e.g., contraceptive counseling).

Area/regional office

Refers to administrative offices or areas over which an organization groups sites. Other terms might include area office, state/county/province, or geographical regions like north, south, east, and west.

Cost per service

In the context of this tool, the cost per service is the average cost for an organization or SDP to provide a healthcare service one time. Cost per service incorporates the costs of the required labor, commodities and pharmaceuticals, administration, building, and equipment.

Data capture form

An Excel spreadsheet developed specifically to help users collect different types of data needed for RHCRS. There are four capture forms: three for capturing site-level financial data and one for collecting information on the time providers spend delivering services.

Direct cost

Direct costs can be linked directly to a specific healthcare service (e.g., the cost of labor for the medical staff directly responsible for inserting an IUD). For the purpose of this tool, the direct costs for labor and commodities are recorded. Related terms are:

- Direct employee (providers directly involved in providing services to patients)
- Direct commodity (commodities for which the cost can be linked to a specific service)

Indirect cost

Indirect costs are costs for resources not attributable to a specific healthcare service but are still necessary to support such activities (e.g., overhead costs, such as the labor of nonservice-delivery staff, building rent, or utilities). Related terms are:

- Indirect employee (staff not directly involved in providing services to patients)
- Indirect commodity (commodities for which the cost cannot be linked to a specific service)

Capital costs

Capital costs are equipment, furniture, or medical tools/devices that have large upfront costs and will be used for longer than a year (e.g., building, vehicle, magnetic resonance imaging machine, or computer).

Recurrent costs

Recurrent costs are costs incurred in the day-to-day operations of service delivery (e.g., rent, utilities, printing).

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