International Planned Parenthood Federation Routine Data Quality Assessment Tool

User's Guide

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ABBREVIATIONS

DVF	data verification factor
FP	family planning
FPAM	Family Planning Association of Malawi
HQ	headquarters
IPPF	International Planned Parenthood Federation
MA	Membership Association
M&E	monitoring and evaluation
RDQA	Routine Data Quality Assessment
STI	sexually transmitted infection
USAID	U.S. Agency for International Development

INTRODUCTION

IPPF Member Associations (MAs) regularly collect service data and other monitoring and evaluation (M&E) information transmitted to IPPF/Central Office. In particular, IPPF has established 30 global indicators that MAs are responsible for reporting to IPPF/Central Office on an annual basis.

The global indicators provide information to monitor the implementation of IPPF's Strategic Framework 2005-2015 at the global level, as well as monitoring progress in the implementation of strategic plans at regional and MA levels. Results are presented each year to IPPF's key decision makers on our Governing Council and on each of our six Regional Executive Committees to enable IPPF's volunteers to monitor progress, allocate budgets and make informed decisions.

Regional offices use the global indicators data to prioritize and target activities, to identify where technical support needs are required in upcoming years, and to make appropriate planning decisions to provide this support. Regional offices also use global indicators data, alongside data on need, capacity, and performance, to make decisions on allocating resources to MAs.

For each MA, global indicators data are used to inform decision making by governance and staff to improve programmes and performance. The survey and service data provide MAs with the opportunity to review their progress on an annual basis, view their own performance in comparison to others in the Federation, and to judge effectiveness and efficiency. MAs use the data to support resource mobilization and advocacy activities by sharing global indicators results and trends in performance over time with donors and other stakeholders. Results are also included in annual reports and proposal and this can make a significant difference in an MA's ability to raise resources at the local and national levels.

To improve data quality and uniformity in the reporting of these indicators, as well as to improve data quality more generally at the MA level, the IPPF/Central Office worked with the U.S. Agency for International Development (USAID)'s MEASURE Evaluation PRH project to adapt the Routine Data Quality Assessment (RDQA) tool for use by IPPF MAs and to develop this user's guide.

About this Document

This user's guide is a reference document designed to complement the IPPF RDQA tool. The RDQA approach to evaluating data quality was selected and adapted for use by IPPF's MAs due to its flexible nature and its usefulness in identifying weaknesses in data quality flow. This user's guide includes an overview of the IPPF RDQA tool and detailed guidance on the implementation and use of the tool. Instructions on using the tool can also be found within the tool itself (see worksheet tab entitled Instructions).

I. OVERVIEW OF THE IPPF RDQA TOOL

Objectives

The objectives of the IPPF RDQA tool are to:

- **verify rapidly** the quality of reported data for selected indicators at selected sites and the ability of an MA's data management system to collect, manage and report data quality;
- **develop an action plan** to implement corrective measures for strengthening the data management and reporting system and improving data quality; and
- **monitor** capacity improvements and performance of the data management and reporting system to produce data quality over time (notably through repeat applications of the IPPF RDQA).

Uses

The IPPF RDQA assesses the quality of up to four indicators and is implemented at up to four levels of the IPPF service delivery model. It is designed to be flexible in use and can serve multiple purposes. The IPPF RDQA process aims to identify strengths and weaknesses in data flow and address any weaknesses by building capacity—not to penalize member associations for those weaknesses. Some potential uses of the tool are listed below, though it is most effective when used routinely:

- *Routine data quality checks as part of ongoing supervision:* For example, routine data quality checks can be included in already-planned supervision visits at the service delivery sites.
- *Initial and follow-up assessments of data management and reporting systems:* An example of this is repeated assessments (e.g., biannually or annually) of a system's ability to collect and report quality data at all levels can be used to identify gaps and monitor necessary improvements.
- *Strengthening program staff's capacity in data management and reporting:* For example, M&E staff can be trained to use the IPPF RDQA and be sensitized to the need to strengthen the key functional areas linked to data management and reporting in order to produce quality data.
- *Preparing for formal data quality audit:* The IPPF RDQA tool can help identify data quality issues and areas of weaknesses in the data management and reporting system that would need to be strengthened to increase readiness for a formal data quality audit.
- *Assessments by IPPF headquarters and regional offices of the quality of data:* Such use of the IPPF RDQA for these assessments could be more frequent, more streamlined and less resource intensive than comprehensive data quality audits.

The IPPF RDQA Tool is implemented as a participatory process using a team approach. The potential users of the IPPF RDQA include program managers, supervisors, and M&E staff at the headquarters, regional, and district levels, as well as by the IPPF headquarters and regional offices' M&E teams.

II. METHODOLOGY

The IPPF RDQA tool contains a series of data collection worksheets that are to be completed at the service delivery site level, intermediate aggregation levels (e.g. district, regional or area), and the headquarters/central level. Each of these three groups includes multiple Microsoft Excel worksheets, described on the next page in the section called Worksheets in the IPPF RDQA Microsoft Excel File.

The tool is always implemented at the service delivery level, where source data capture original data; and the tool is always implemented at the central level, where data are aggregated or summarized. For countries where there are intermediate aggregation sites (for example, district or regional levels), the IPPF RDQA tool should also be applied here.

Data collection sheets of the IPPF RDQA tool are designed for the service delivery site, the intermediate aggregation sites, and the national/headquarter level. Each of these sheets contains two parts for data collection: data verifications and systems assessment.

Data Verifications

Data verifications include quantitative comparisons of recounted to reported data and, at the district and central headquarters level, a review of timeliness, completeness and availability of reports. The purpose of this part of the IPPF RDQA is to assess whether the data agree with reported results from other sources, and whether service delivery and intermediate aggregation sites are collecting and reporting data accurately, completely, and on time.

At the service delivery level, the Part 1: Data Verifications section of the IPPF RDQA Microsoft Excel worksheet has three sub-parts: documentation review, recounting reported results, and cross-checking reported results with other data sources (see figure 1).

The worksheets for the intermediate aggregation sites and national headquarters are found in the Microsoft Excel spreadsheet.

Worksheets in the IPPF RDQA Microsoft Excel File

To function properly, the IPPF RDQA tool must be opened with macros enabled. When you select the number of regional aggregation sites, district aggregation sites and service delivery sites, the appropriate number of sheets for each level will appear in the tool; i.e., if you select three service delivery sites, sheets titled "Service Delivery Site 1," "Service Delivery Site 2" and Service Delivery Site 3" will appear, as well as a "Service Site Summary" sheet.

START: Allows users to select the number of Regional Aggregation Sites, District Aggregation Sites, and Service Delivery Sites.

INSTRUCTIONS: Provides directions for users on how to use the Microsoft Excel workbook.

INFORMATION PAGE: Records the name of the programme, indicators reviewed, reporting period specified, assessment team members and contact information, and information about assessment sites.

SERVICE POINT: Records the results of the (1) data verifications and (2) system assessment at the service delivery site; displays a dashboard of results for the service delivery site (more detail provided below); and captures recommendations for the service delivery site.

SERVICE SITED SUMMARY: Displays aggregated results from all service delivery sites visited during the RDQA.

DISTRICT SITE: Records the results of the (1) data verifications and (2) systems assessment at the district site; displays a dashboard of results for the district site; and captures recommendations for the district site.

DISTRICT SITE SUMMARY: Displays aggregated results from all district sites visited during the RDQA.

REGIONAL SITE: Records the results of the (1) data verifications and (2) systems assessment at the Regional Site; displays a dashboard of results for the Regional site; and captures recommendations for the Regional Site.

REGIONAL SITE SUMMARY: Displays aggregated results from all regional sites visited during the RDQA.

NATIONAL LEVEL-HEADQUARERS: Records the results of the (1) data verifications and (2) systems assessment at the member association's national headquarters; displays a dashboard of results for national M&E and captures recommendations for national M&E.

SYSTEM ASSESSMENT SUMMARY: Provides a summary table of outcomes for functional areas of data quality, i.e. (1) M&E structure, function and capabilities; (2) indicator definitions and reporting guidelines; (3) data collection and reporting forms/tools; (4) data management processes; (5) data utilization; and (6) links with national government reporting system.

GLOBAL DASHBOARD: Displays aggregated results from all sites and levels visited during the RDQA.

RDQA FINAL ACTION PLAN: Consolidates recommendations from each level into an overall action plan based on the RDQA

LIST OF SURVEY QUESTIONS: Provides list of all survey questions, by level and dimension of data quality.

	Component of the M&E System	Answer Codes: Yes - completely Partly No - not at all N/A	REVIEWER COMMENTS (Please provide detail for each response not coded "Yes - Completely". Detailed responses will help guide strengthening measures.)
Part 1: Data Verifications			
A - Documentation Review:			
	Review availability and completeness of all indicator source documents for the selected reporting period.		
1	Review available source documents for the reporting period being verified. Is there any indication that source documents are missing?		
	If yes, determine how this might have affected reported numbers.		
2	Are all available source documents complete?		
	If no, determine how this might have affected reported numbers.		
3	Review the dates on the source documents. Do all dates fall within the reporting period?		
	If no, determine how this might have affected reported numbers.		
B - Recounting reported Results:			
	Recount results from source documents, compare the verified numbers to the site reported numbers and explain discrepancies (if any).		
4	Recount the number of people, cases or events during the reporting period by reviewing the *source document*s. **[A]**		
5	Enter the number of people, cases or events reported by the site during the reporting period from the site *summary report*. **[B]**		
6	**Calculate the ratio of recounted to reported numbers. [A/B]**	-	
7	What are the reasons for the discrepancy (if any) observed (i.e., data entry errors, arithmetic errors, missing source documents, other)?		
C - Cross-check reported results with other data sources:			
Cross-checks can be performed by examining separate inventory records documenting the quantities of treatment drugs, test-kits or ITNs purchased and delivered during the reporting period to see if these numbers corroborate the reported results. Other cross-checks could include, for example, randomly selecting 20 patient cards and verifying if these patients were recorded in the unit, laboratory or pharmacy registers. To the extent relevant, the cross-checks should be performed in both directions (for example, from Patient Treatment Cards to the Register and from Register to Patient Treatment Cards).			
8	List the documents used for performing the cross-checks.		
9	Describe the cross-checks performed?		
10	What are the reasons for the discrepancy (if any) observed?		

Figure 1. IPPF RDQA data verification worksheet for a service delivery site.

Systems Assessment

Systems assessment involves qualitative assessment of the relative strengths and weaknesses of function areas in the data management and reporting system. The systems assessment asks questions on the following six dimensions:

1. M&E structure, functions, and capabilities
2. indicator definitions and reporting guidelines
3. data collection and reporting forms and tools
4. data management processes
5. data utilization[1]
6. links with the national reporting system

The purpose of assessing the data management and reporting system is to identify potential threats to data quality posed by the design and implementation of data management and reporting systems. High quality data is accurate and reliable data that are complete, timely, precise, credible and maintained under conditions of confidentiality, when appropriate. Figure 2 lists the questions posed for the systems assessment, the levels to which the questions pertain, and the components of data quality addressed by each question. This figure is helpful for interpreting the Dimensions of Data Quality on the Global Dashboard of the IPPF RDQA.

For further information on the operational definitions of the components of data quality and the overall key questions asked by the IPPF RDQA to address data quality, see annex A.

It is recommended that both parts of the IPPF RDQA tool—data verification and systems assessment—be implemented together to assess data flow quality fully within a given MA's reporting system, particularly the first time the MA's system is being assessed. However, depending on the assessment objectives, one or both of these processes can be applied. It is, however, recommended that the data verifications be conducted more frequently (e.g., quarterly, in conjunction with routine supervision visits) in order to monitor and guarantee the quality of reported data. The system's assessment protocol could be applied less frequently (e.g., annually or every two years).

[1] Data utilization was added as a dimension specifically for the IPPF RDQA.

Systems Assessment Components Contributing to Data Quality Dimensions												
Functional Area	Level			Dimension of Data Quality								
	Central HQ	Aggregation Levels	Service Sites	Accuracy	Reliability	Timeliness	Completeness	Precision	Confidentiality	Integrity	Other
I - M&E Structure, Functions and Capabilities												
There is a documented organizational structure/chart that clearly identifies positions that have data management responsibilities at the headquarters.	☐										
All staff positions dedicated to M&E and data management systems are filled.	☐										
A senior staff member (e.g., the Program Manager) is responsible for reviewing the aggregated numbers prior to the submission/release of reports from the M&E Unit.	☐										
There are designated staff responsible for reviewing the quality of data (i.e., accuracy, completeness, timeliness and confidentiality) received from sub-reporting levels (e.g., regions, districts, service sites).	☐	☐									
There are designated staff responsible for reviewing aggregated numbers prior to submission to the next level (e.g., to districts, to regional offices, to the central headquarters).		☐	☐								
The responsibility for recording the delivery of services on source documents is clearly assigned to the relevant staff.			☐								
There is a training plan which includes staff involved in data-collection and reporting at all levels in the reporting process.	☐										
All relevant staff have received training on the data management processes and tools.	☐	☐	☐								

Figure 2. System assessment questions and links to dimensions of data quality (continues next page).

II - Indicator Definitions and Reporting Guidelines											
The headquarters has documented and shared an MA service list with all relevant levels of the reporting system.	☐										
There is a definition of each MA service available at all relevant levels.	☐	☐	☐								
There is a written policy that states for how long source documents and reporting forms need to be retained.	☐										
There is a documented mapping of MA services to IPPF services which is used to compile reports from all source documents	☐										
There is a description of the services that are related to each indicator measured by the Program/project.	☐										
The M&E Unit has provided written guidelines to all reporting entities (e.g., regions, districts, service sites) on reporting requirements and deadlines.	☐	☐	☐								
III - Data Collection and Reporting Forms / Tools											
If multiple organizations are implementing activities under the Program/project, they all use the same reporting forms and report according to the same reporting timelines.	☐										
The headquarters has identified a standard source document (e.g., medical record, client intake form, register, etc.) to be used by all service delivery sites to record service delivery.	☐										
The headquarters has identified standard reporting forms/tools to be used by all reporting levels.	☐	☐	☐								
….The standard forms/tools are consistently used by all levels.	☐	☐	☐								
Clear instructions have been provided by the headquarters on how to complete the data collection and reporting forms/tools.	☐	☐	☐								
The data collected by the service delivery sites has sufficient precision to measure the service statistics and units of measure (i.e. data are collected on above and below age 25, items provided, referrals, new acceptors and service type).	☐	☐	☐								
All source documents and reporting forms relevant for measuring the indicator(s) are available for auditing purposes (including dated print-outs in case of computerized system).	☐	☐	☐								
IV - Data Management Processes											
The headquarters has clearly documented data aggregation, analysis and/or manipulation steps performed at each level of the reporting system.	☐										
Feedback is systematically provided to all sub-reporting levels on the quality of their reporting (i.e., accuracy, completeness and timeliness).	☐	☐									
[If applicable] There are quality controls in place for when data from paper-based forms are entered into a computer (e.g., double entry, post-data entry verification, etc).	☐	☐	☐								
[If applicable] There is a written back-up procedure for when data entry or data processing is computerized.	☐	☐	☐								

Figure 2 (continued): System assessment questions and links to dimensions of data quality.

If yes, the latest date of back-up is appropriate given the frequency of update of the computerized system (e.g., back-ups are weekly or monthly).	☐	☐	☐									
Relevant personal data are maintained according to national or international confidentiality guidelines.	☐	☐	☐									
The recording and reporting system avoids double-counting clients within Serivce Delivery Sites (e.g., a person receiving the same service twice in a reporting period, a person registered as receiving the same service in two different locations, etc).	☐	☐	☐									
The reporting system enables the identification and recording of referrals and their follow up.	☐	☐	☐									
The clinic-based service delivery sites have unique client-based medical records (manual or electronic).	☐		☐									
There is a written procedure to address late, incomplete, inaccurate and missing reports; including following-up with sub-reporting levels on data quality issues.	☐	☐										
If data discrepancies have been uncovered in reports from sub-reporting levels, the headquarters has documented how these inconsistencies have been resolved.	☐	☐										
The headquarters can demonstrate that regular supervisory site visits have taken place and that data quality has been reviewed.	☐											
V- Data Utilization												
There are written guidelines for data utilization that have been shared with all those who have data collection and reporting responsibilities at all levels.	☐											
Data utilization is included in the training curriculum for all those with data collection and reporting responsibilities.	☐	☐	☐									
There is documented evidence that data reported by sub-reporting levels are used by the central headquarters to make decisions about budgets and staffing.	☐											
There is documented evidence that data reported by sub-reporting levels are used by the central headquarters to monitor programmatic achievements and identify challenges.	☐	☐										
There is documented evidence of service provision trends being discussed at monthly or quarterly meetings.	☐	☐	☐									
VI - Links with National/Central Reporting System												
When available, the relevant national/central forms/tools are used for data-collection and reporting.	☐	☐	☐									
When applicable, the data are reported through a single channel of the national/central reporting system.	☐	☐	☐									
The service sites are identified using ID numbers that follow a national/central system.	☐											
The system records information about where the service is delivered (i.e. region, district, ward, etc.)	☐	☐	☐									
….if yes, place names are recorded using standarized naming conventions.	☐	☐	☐									

Figure 2 (conclusion): System assessment questions and links to dimensions of data quality.

III. OUTPUTS OF THE IPPF RDQA TOOL

The IPPF RDQA tool is designed to generate specific outputs when data from the various reporting levels have been filled completely. The summary dashboards and individual site dashboards contain automatically-generated graphic displays of results. Further, the tool includes worksheets with templates for developing action plans based on the results of the assessment, which must be manually completed by the team conducting the IPPF RDQA.

The outputs from the IPPF RDQA tool should be reviewed for each site visited and as a whole by the MA secretariat/headquarters. Site-specific summary findings should be noted after each site visit and then consolidated for the entire MA towards the end of the IPPF RDQA. Further instructions around site briefings are included in section IV of this guide.

The findings should stress the positive aspects of the MA's M&E system as it relates to management and reporting, as well as any weaknesses identified. It is important to emphasize that reporting a weakness does not necessarily mean that the MA or the MA service delivery site is deficient in data collection and reporting. The MA may have in place a number of controls and effective steps to ensure that data are collected consistently and reliably.

Nevertheless, the purpose of the IPPF RDQA is to improve data quality. Thus, as the assessment team completes its data management system and data verification reviews, it should clearly identify evidence and findings that indicate specific needs for improvements to strengthen the M&E system. It is essential that final findings be backed by evidence.

Specific outputs generated by the IPPF RDQA tool include graphic display of assessment results and action plans for system strengthening, which are described next.

Graphic Display of Assessment Results

The worksheets in the IPPF RDQA tool can be printed and completed by hand or, alternately, responses can be entered directly into the worksheet on a computer. When completed electronically, a number of dashboards produce graphics of summary statistics for each site or level of the reporting system, and a global dashboard that aggregates the results from all levels and sites included in the assessment.

Service Delivery Sites

The graphs generated for a single service delivery site include data management assessments and data verifications:

- *Data management assessments:* These summarize the review of the MA's M&E system at the service delivery sites. Data for this kind of graph are derived from responses to questions on the six function areas necessary for an M&E system to maintain data quality (M&E structure, functions and capabilities, indicator definitions and reporting guidelines, data collection and reporting forms and tools, data management processes, data utilization and links with national reporting system). These results are displayed as a

spider graph, summarizing qualitative data generated from the assessment of the data collection and reporting system and can be used to prioritize areas for improvement. Decisions on where to invest resources for systems strengthening should be based on the relative strengths and weaknesses of the different functional areas of the reporting system identified via the IPPF RDQA, as well as consideration of practicality and feasibility.

- *Data verifications:* These are used to calculate the accuracy of reported data. Data for these graphs, shown as bar charts, are derived from the calculation of verification factors generated from the recounting exercise performed at each level of the reporting system (i.e., the ratio of the recounted value of the indicator to the reported value). When indicators are over-reported, the data verification factor (DVF) will be more than 100%; when indicators are under-reported, the DVF will be less than 100%. The highest administrative level initiating the IPPF RDQA (i.e., HQ) must determine the range of acceptable values for the DVF (e.g., between 90% and 110%). The data verification information can be used to plan and set targets for data quality improvement.

Figure 3 provides a sample dashboard for single service delivery site, showing both data management assessment (a spider graph) and data verification (bar chart).

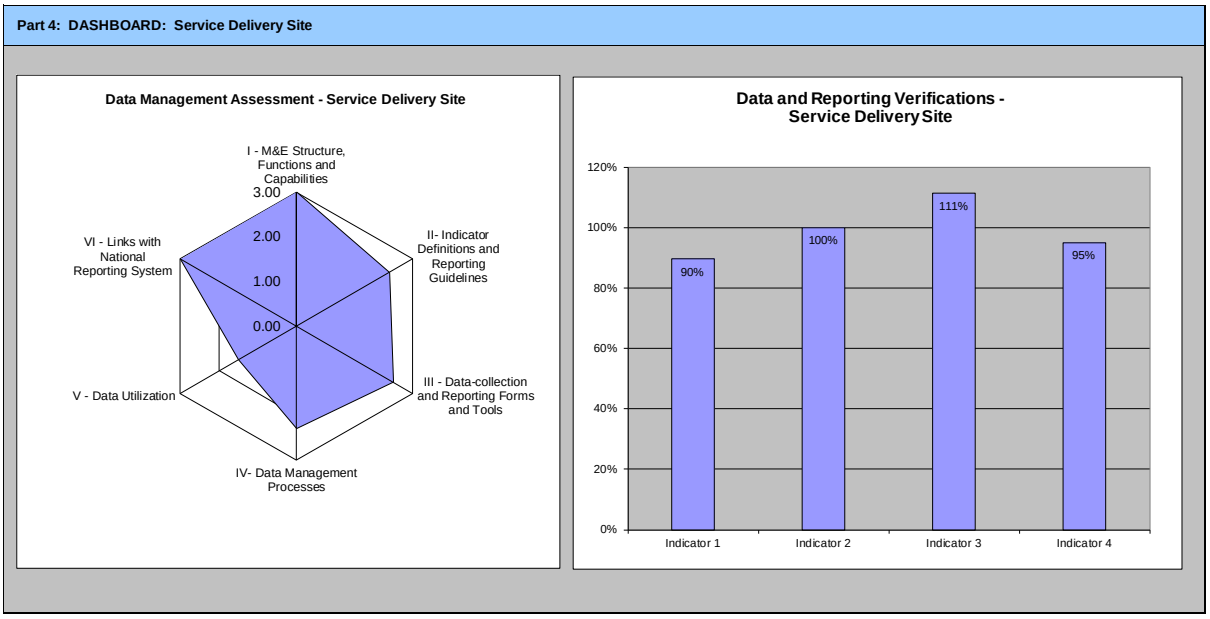

Figure 3. Sample dashboard for a service delivery site.

The summary graphs that are generated for all service delivery sites include a summary data management graph and a summary data verification graph, as well as a third graph on documentation review, which illustrates the percent of reports that are available, complete and from the reporting period being assessed. See figure 4 for as sample summary dashboard for service delivery sites.

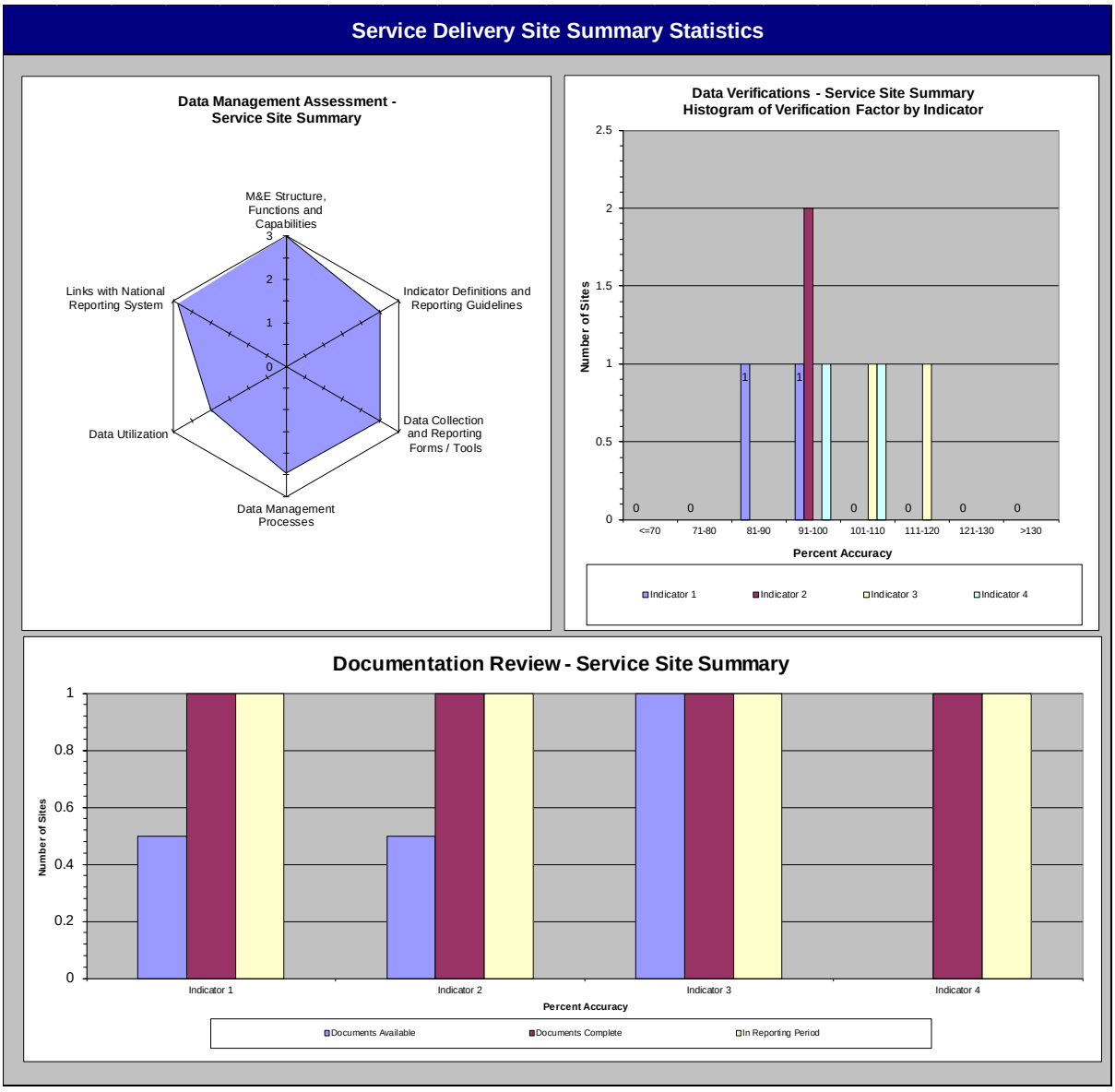

Figure 4. Dashboard of summary statistics at the service delivery sites

Intermediate Aggregation Sites (District, Regional or Area)

If data are collected at the district, regional or area level, a summary worksheet of results is also generated. At the district or regional level, the IPPF RDQA tool generates summary graphs, including data management assessment (spider chart), a summary bar chart of system assessment results by district, data verifications (an average of all districts and the results by district), and accuracy, timeliness, and completeness of reporting performance (average of all districts and results by district). Figure 5 provides a sample summary dashboard for districts.

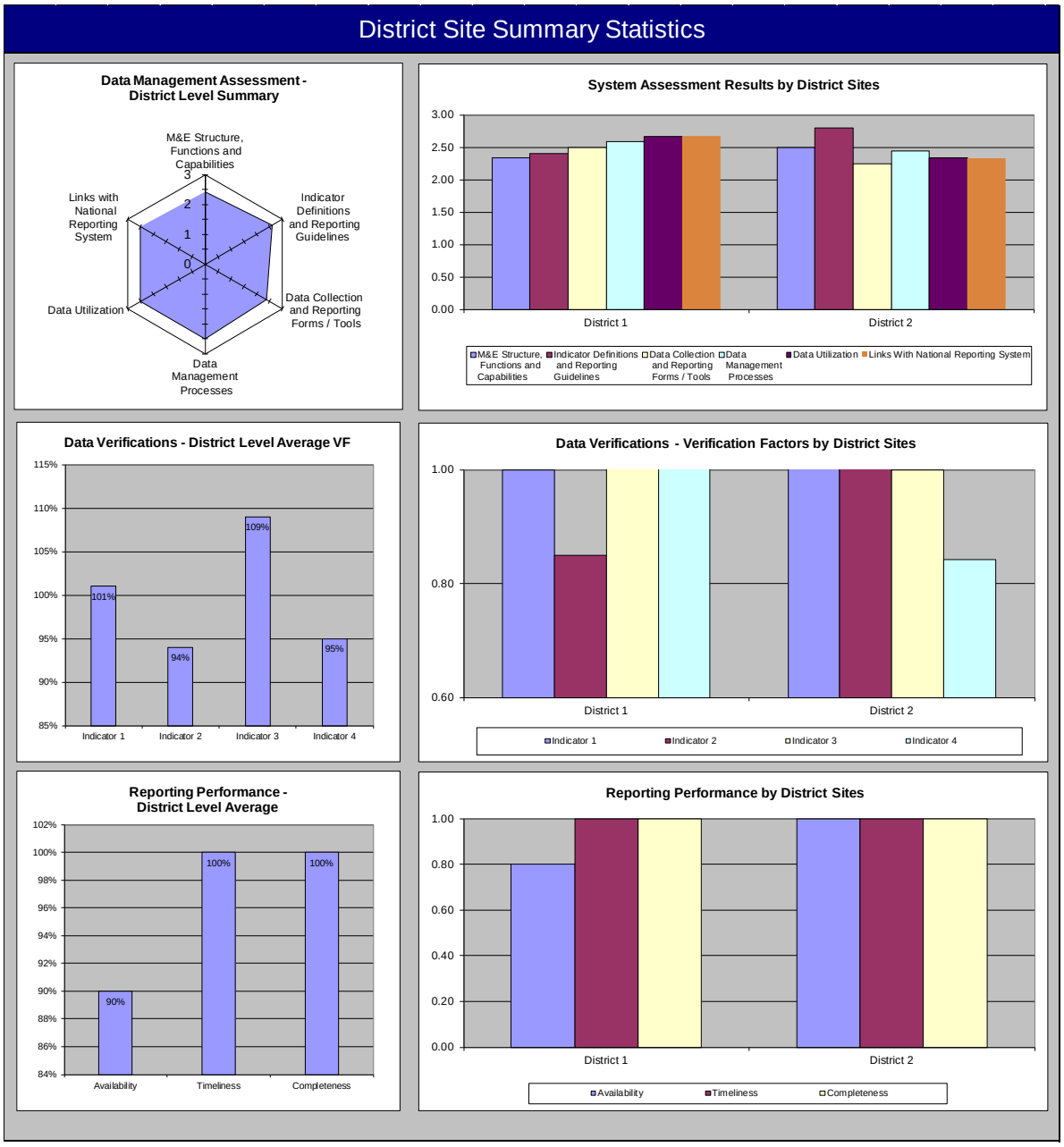

Figure 5. Sample summary dashboard: districts.

Global Dashboard

Finally, a global summary dashboard is automatically generated by the IPPF RDQA tool to show summary graphs for the various levels of the system being assessed, including data management assessment (spider chart), a summary bar chart of system assessment results, data verifications and reporting performance. Figure 6 shows a sample global summary dashboard.

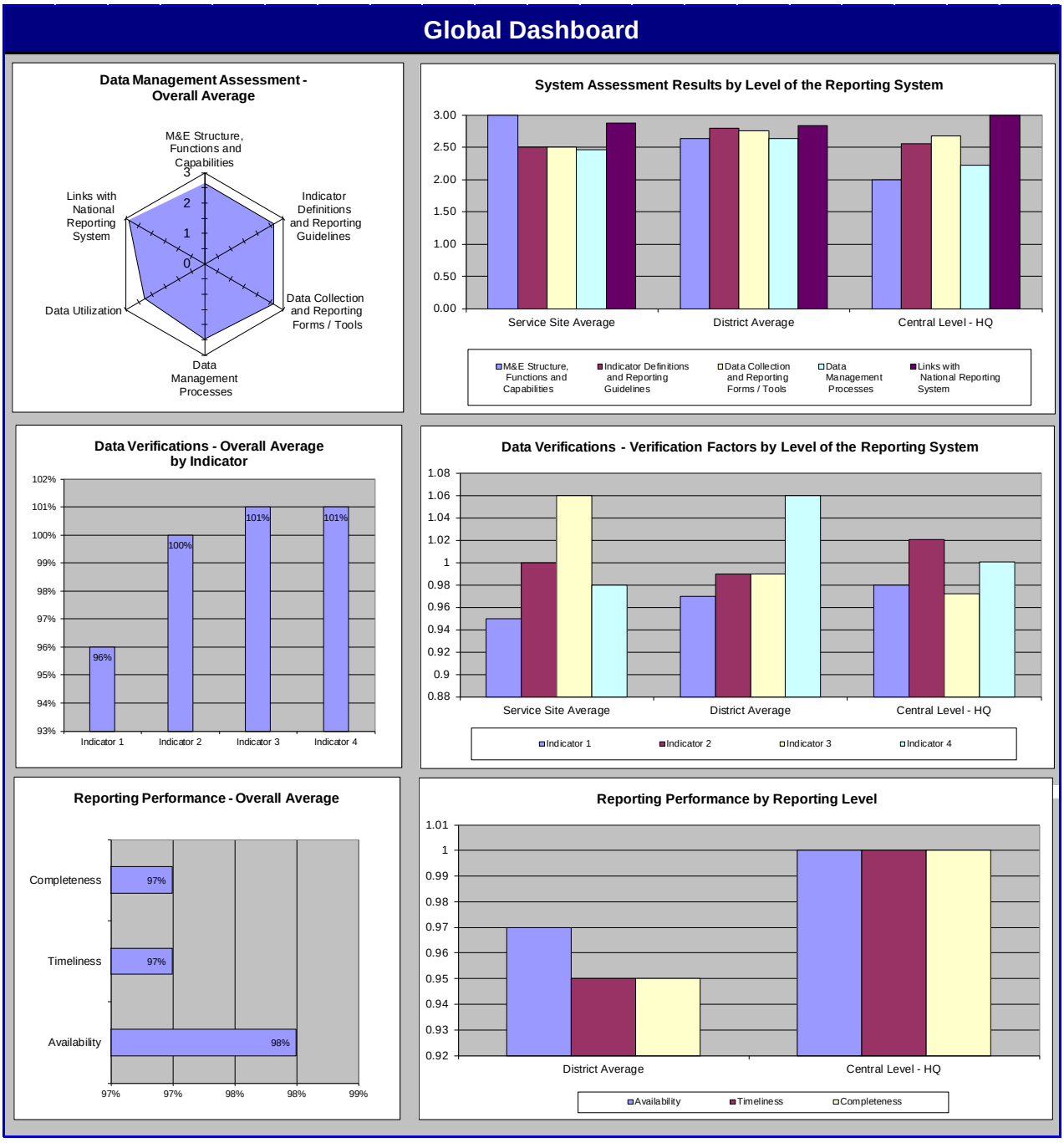

Figure 6. Sample Global Dashboard

In addition, a summary table is produced to show findings from the systems assessment by the functional areas supporting data quality, shown in figure 7. Scores are based on responses to questions about the various function areas, where "completely" = 3, "partly" = 2, and "weakly/not at all" = 1. If a functional area is not applicable to that particular level of reporting, the IPPF RDQA team can select "not applicable." Scores from 2.5 to 3.0 indicate the system area is mostly functional; scores from 1.5 to 2.4 indicate the system area is partially functional; and scores of less than 1.5 indicate the system area is weak or not at all functional. The average scores for each functional area are provided in the summary table. The individual cells appear green for areas where the MA is strong (greater than or equal to 2.5) and red for weaker areas (less than 1.5). The far right column gives an overall average for the MA across all functional areas.

SUMMARY TABLE Assessment of Data Management and Reporting Systems		I M&E Structure, Functions and Capabilities	II Indicator Definitions and Reporting Guidelines	III Data-collection and Reporting Forms / Tools	IV Data Management Processes	V Data Utilization	VI Links with National Government Reporting System	Average (per site)
Central Level/Headquarters								
-	Central HQ	2.00	2.56	2.67	2.22	2.40	3.00	2.48
Regional/Area Level								
District Level								
1	District 1	3.00	3.00	3.00	2.77	2.67	2.67	2.85
2	District 2	2.25	2.60	2.50	2.50	2.33	3.00	2.53
Service Delivery Sites								
1	SDP 1	3.00	2.40	2.50	2.29	1.50	3.00	2.45
2	SDP 2	3.00	2.60	2.50	2.63	1.00	2.75	2.41
Average (per functional area)		2.65	2.63	2.63	2.48	1.98	2.88	2.54

Figure 7. Systems assessment summary.

Action Plans for System Strengthening

The IPPF RDQA tool provides templates for recommendations for service delivery sites, intermediate aggregation level sites and the national/HQ site included in the assessment. Figure 8 shows the recommendations template for service delivery sites. The same template is used at the intermediate and national levels.

These recommendations feed into the IPPF RDQA's final output: an overall action plan for improving data quality across the MA (see figure 9). The action plan describes the strengthening measures identified by the IPPF RDQA team in consultation with site staff, the staff responsible for each activity, the timeline for completion, resources required and follow-up. This is automatically populated as the recommendations template is filled out at each site.

When the final results from a given IPPF RDQA are collected and archived, they can be linked to IPPF RDQAs from the same sites and districts at different time periods. This comparison of results over time is how IPPF RDQAs can be used for routine monitoring of data quality.

Part 3: Recommendations for the Service Site				
	Based on the findings of the systems' review and data verification at the service site, please describe any challenges to data quality identified and recommended strengthening measures, with an estimate of the length of time the improvement measure could take. These will be discussed with the Program.			
	Identified Weaknesses	**Description of Action Point**	**Person(s) Responsible**	**Timeline**
1				
2				
3				
4				

Figure 8. Template for recommendations for a service site.

RDQA Final Action Plan				
Country:				
Program/project				
Date of RDQA:				
Date of Proposed Follow-up				
Description of Weakness	**System Strengthening Measures**	**Responsable(s)**	**Timeline**	**Comments**
Add rows as needed				

Figure 9. IPPF RDQA final action plan template.

IV. IMPLEMENTATION OF THE IPPF RDQA TOOL

Ten-Step Process

Typically, the implementation of the IPPF RDQA can be subdivided in 10 steps. The first five steps are as follows:

1. Determine the purpose of the IPPF RDQA (see earlier section on objectives and uses).
2. Review the IPPF RDQA with the team. Particularly if it is the first application of the IPPF RDQA with an MA, the IPPF RDQA team should schedule time in advance of site visits to review the systems assessment questionnaire to come to a common understanding of the questions, ensure all questions are appropriate/relevant for the member association and to agree upon indicators.
3. Map the MA's reporting system. Especially if the IPPF RDQA is being conducted by an outside entity, the team should also map the MA's structure and reporting system data flow (e.g., there are 100 sites providing the services in 10 districts. Reports from sites are sent to districts, which then send aggregated reports to the M&E unit). In some cases, the data flow will include more than one intermediate level (e.g., regions, provinces or states or multiple levels of program organizations). Having a detailed picture of an MA's reporting system is important for determining the levels and sites to be included, and to identify source documents.
4. Select levels and sites to be included (depending on the purpose and resources available). Decide what levels of the data management and reporting system will be included in the assessment – service sites, intermediate aggregation levels, and/or central M&E unit. It is not necessary to visit all the reporting sites in a given MA to determine the quality of the data. Random sampling techniques can be utilized to select a representative group of sites whose data quality is indicative of data quality for the whole program. Depending on the volume of service of the program, the number of service delivery sites and the quality of data, as few as a dozen sites can be assessed to obtain a reasonable estimate of data quality for the program. See annex B for instructions on how to sample sites using two- or three-stage cluster sampling.
5. Identify indicators, data sources and reporting period. The IPPF RDQA is designed to assess the quality of data and underlying systems related to indicators that are reported to the central and regional IPPF offices to measure success in program areas related to specific services during specific reporting periods.

The IPPF RDQA tool can track up to four service indicators. When conducting the IPPF RDQA, it is important to determine the data sources for the indicators selected[2] and determine the time period for assessing the reported data. For example, if data are reported every six months, the

[2] The IPPF global indicators may not always directly map to the indicators being captured at the service delivery level.

reporting period for the IPPF RDQA could be January-June of a year. Using a specified reporting period gives a reference from which to compare the "recounted" data.[3]

Selection of indicators will depend on the objectives of applying the IPPF RDQA. For example, if certain aggregate indicators at the central level are showing unexplained fluctuation, the study team may want to select those specific indicators and apply the IPPF RDQA tool on a quarterly basis using those same indicators. Another example could be that a service delivery site wishes to check the overall health of its M&E system on a regular basis, in which case that service delivery site might randomly select one or two indicators and apply the IPPF RDQA tool on an annual basis. Whatever the objective, it is important to select indicators prior to the tool's application and to use those same indicators throughout that round of IPPF RDQA application.

The remaining five steps are as follows:

6. Assign roles and responsibilities within the IPPF RDQA team. Prior to the site visits, the IPPF RDQA team should delegate tasks, such as note-taking, leading the systems assessment discussion, and populating the tools.
7. Notify sites. Sites should be notified prior to the visit for the data quality assessment. This notification is important so that appropriate staff are available to answer the questions in the checklist and to facilitate the data verification by providing access to relevant source documents.
8. Conduct site visits. Sites should be notified prior to the visit for the data quality assessment. This notification is important so that appropriate staff are available to answer the questions in the checklist and to facilitate the data verification by providing access to relevant source documents. During the site visits, the relevant sections of the appropriate checklists in the Excel file are completed (e.g. the service site checklist at service sites, etc.). These checklists are completed during or immediately following interviews of relevant staff and reviews of site documentation. See below for the site visit protocol.
9. Review outputs and findings. The outputs from the IPPF RDQA, described in section III of this guide, should be reviewed for each site visited. Site-specific summary findings in the form of recommendations are noted at each site level.
10. Develop a system strengthening plan, including follow-up actions. Given the findings and recommendations for each site, an overall action plan is developed. This is explained in the previous section of this guide, under Action Plans for System Strengthening.

[3] Depending on the determined objective of the IPPF RDQA, it may be necessary to specify different reporting periods for each level. For example, some MAs may only report to the regional offices once a year; collecting all the data from a 12-month period at a service delivery site may be time-prohibitive. In these instances, it may be that data at the central HQ level are verified for the entire 12-month period, while data at the intermediate aggregation and service delivery levels are verified for a one- or two-month period.

Responsibility

The person or people in charge of the implementation process will vary depending on the implementation plan and objectives. Monitoring and evaluation teams in regional offices and MAs are likely to lead this process.

Resources Required

Human Resources

Human resources include:

- trained M&E personnel at the service delivery site, intermediate aggregation site, and national HQ level; and
- IPPF RDQA team (this can be local or international), which includes a team leader and at least one additional team member.

Materials

Materials include:

- indicator-specific data collection and collation tools, including the electronic IPPF RDQA tool;
- data element and indicator definitions;
- IPPF RDQA tool (printed version) for each location to be assessed; and
- any relevant policies, procedures or reference manuals pertaining to the indicators/data management systems under investigation.

Equipment

Equipment includes:

- stationery, calculator, pen, pads of paper
- printer (if possible, a color printer)
- laptops for fieldwork
- Microsoft Excel software
- transportation

Skills Needed

Skills needed include:

- being well-versed in using the IPPF RDQA tool;
- intermediate computer literacy;
- ability to use Microsoft Office, particularly Microsoft Excel;

- numeracy skills and knowledge of basic statistics;
- skills interpreting information; and
- being versed in relevant indicator data flows and related information systems.

Site Visit Protocol

Pre-site Visit

Prior to the site visit, it is important that the IPPF RDQA team have a good overview of the MA's reporting structure, that the team review the IPPF RDQA questionnaire together, that IPPF RDQA team roles are delegated, and that sites are notified of the IPPF RDQA team's visit.

Overview of the MA's reporting structure. Having a detailed picture of a MA's reporting structure is critical to determining the levels and sites at which the IPPF RDQA should be piloted, as well as identifying required source documents. If an MA is using the IPPF RDQA for a self-assessment, this step may not be necessary—particularly if it is a repeat application—as they should already have this understanding. However, if the IPPF RDQA is being conducted by an outside entity (for example, someone from an IPPF regional office), the outside entity should work with the MA in advance of the application to gain an understanding of the reporting structure.

Team review of IPPF RDQA. Particularly if it is the first application of the IPPF RDQA with an MA, the IPPF RDQA team should schedule time in advance of site visits to review the systems assessment questionnaire to come to a common understanding of the questions, ensure all questions are appropriate/relevant for the member association, and to agree upon indicators.

Assign team roles. Prior to the site visits, remember as a team to delegate IPPF RDQA tasks, such as note-taking, leading the systems assessment discussion, and populating the tools.

Notifying sites of the visit. While the selected indicators should not be communicated to sites in advance of the IPPF RDQA application, sites should be given at least a week's notice to ensure all necessary source documents and aggregate reports are readily available to the IPPF RDQA team. Site visits should also be arranged such that service delivery is not interrupted.

Site Visit Introduction

At the beginning of each site visit, it is important to give an overview of who the team is and why the team is visiting. This introduction should be facilitated by the team leader and take about 30 minutes. Site staff should understand that the IPPF RDQA is not a punitive exercise, but rather it is being conducted to improve the data management system and maximize data quality.

The introduction should:

- explain the background and objectives of the IPPF RDQA (the process at all levels, the composition of the IPPF RDQA team, and what documents the team will need to see;

- introduce the individual IPPF RDQA team members and ask the site-level staff to introduce themselves;
- ask staff if they have any questions; and
- agree on a (rough) timetable of what needs to be done during the visit (e.g., explanation of the site activities, administering the IPPF RDQA tool, debriefing).

Implementation of IPPF RDQA Tool

Led by team leader and taking approximately 60 minutes, the implementation of the IPPF RDQA tool should:

- provide a brief overview of the tool (data verification and systems assessment components, each M&E area reviewed, how it is filled in, scoring levels);
- ask questions to understand more about the site: site activities, staff positions, existing M&E tools and forms, staff positions responsible for filling out and reviewing forms/reports, process for submitting reports and to whom, etc. (at service delivery sites, it is helpful to request the IPPF RDQA respondent to describe the data flow process from the moment a client walks in the door until the data from that site is reported up to the next aggregation level);
- facilitate a discussion based on the questions of the IPPF RDQA tool (do not read the questions straight from the tool; gGive examples to clarify questions);
- take notes as the interview is conducted (the team leader should be using a laptop to score the questions in the tool, while a team member takes detailed notes to be used in the team discussion later; these notes will be used as the basis for filling out the comments section of the tool, justifying the choice of answers “completely”, “partly”, or “not at all”);
- score the tool (in cases where a question asks about whether there is a specific procedure or protocol in place, if the procedure is documented, it should be scored “completely”; however, if the procedure is well-known by more than one staff member but is not documented, it can still score “partly”; which is relevant to questions about reporting requirements, data storage, back-up procedures, etc.);
- identify where staff say they have documentation available (e.g., confidentiality protocol, roles and responsibilities, storage and backup procedure, etc.), and ask to see a copy of the documentation at the end of the discussion (a team member should take notes on this and ensure that the team follows up either at the end of the discussion or during the data verification); and
- conduct the data verification part of the tool (for this, refer to the discussion about the site and/or the data flow diagram and identify the source documents at that reporting level [those needed to fill in the report submitted to the next reporting level]; for each indicator assessed, fill in the number reported to the next reporting level and then recount the number from the source documents; this will compute the DVF and if the DVF is not equal to 100%, provide an explanation);

Team Discussion

Team discussion should take about 30 minutes and should include the following:

- Review the data verification section of the IPPF RDQA tool and finalize this. Ensure that the way the data were verified is clearly explained in the tool. If there are additional notes (e.g. Microsoft Excel files or written notes) used to generate calculations, selecte someone to summarize these into one document.
- Review the system assessment section of the IPPF RDQA tool. Go through each question and agree on the score for the question and the comment. The comment should provide justification/explanation for the choice of score. Refer to the notes where necessary for clarification. Make sure that all scores ("completely", "partly", "not at all", or "not applicable") are qualified with a comment, not just for those answered "not at all".
- If possible, the team leader should print copies of the key findings to be reviewed at the debrief with the team members and the debrief with site staff. The key findings should include the bar charts and spider graphs.

Debriefing

A debrief with site level staff must be conducted at the end of every visit, at each level of the system. The debriefing, to be presented by the team leader, should take approximately 90 minutes with 30 minutes for a presentation of findings followed by an hour for discussion and action plan development.

Debriefs are provided to each reporting level so that:

- staff can see and understand the results of the assessment at their office, i.e. the strengths and weaknesses of their M&E system;
- staff have an opportunity to ask questions, correct any errors/misunderstandings, and provide additional clarifications on the findings;
- the team can update the answers in the tool with any corrections or qualifying information; and
- the IPPF RDQA debrief can help the staff generate an action plan appropriate to the office.

The following is a suggested outline for a debriefing:

- Present the findings of the visit to the site staff. Where possible, everyone attending should be provided with printed copies of the findings. This should include the bar charts and spider graph. Where printouts are not available, staff can view the presentation on the IPPF RDQA laptop.
- Suggest that questions are kept until the end of the presentation unless relevant to understanding the output.
- Before discussing the findings, explain how to interpret the outputs (the spider graph, the bar charts, and the verification factor). Make sure that all scores in the spider graph (low and high) are explicitly linked to questions asked under that area (i.e., explain the key reasons for *why* the site achieved the score for each area on the spider graph).
- At the end of the presentation, discuss each specific weakness that was identified. Ask the staff to comment on the findings. Discuss with the staff what they think would be good ways to address the weaknesses. Develop an action plan where each specific weakness is addressed

in one action point. A team member should document these on the action plan template provided. Note that the template defaults to five action points in the action plan (i.e., there are only five rows; therefore, add rows as necessary).

- At the end of the debriefing, provide electronic copies of the action plan. Sites will receive summary results and individual site briefers at the conclusion of the full IPPF RDQA at all sites/levels.
- End the debriefing on a positive note. Even if the service delivery site or health district scored very low, recognize the value of the work that staff members are already doing every day and highlight the potential for building capacity going forward. Finally, emphasize the important role that each staff member plays in generating quality data for stakeholders, providing quality service provision to recipients, and shaping effective implementation of the project as a whole.

ANNEX A. DATA QUALITY DIMENSIONS

The IPPF RDQA is grounded in the components of data quality, namely, that MAs need accurate and reliable data that are complete, timely, precise, credible, and maintained under conditions of confidentiality, when appropriate (see table A1).

Table A1. Data Quality Dimensions

Dimensions of Data Quality	Operational Definition
Main dimensions of data quality	
Accuracy	Also known as validity. Accurate data are considered correct: the data measure what they are intended to measure. Accurate data minimize error (e.g. recording or interview bias, transcription error, sampling error) to a point of being negligible.
Reliability	The data generated by an MA's information system are based on protocols and procedures that do not change according to who is using them and when or how often they are used. The data are reliable because they are measured and collected consistently.
Sub-dimensions of data quality	
Precision	This means that the data have sufficient detail. For example, an indicator requires the number of individuals who received family planning (FP) counselling. An information system lacks precision if it is not designed to record the sex of the individual who received FP counselling.
Completeness	Completeness means that an information system form which the results are derived is appropriately inclusive: it represents the *complete* list of eligible persons or units and not just a fraction of the list.
Timeliness	Data are timely when they are up-to-date (current) and when the information is available on time. Timeliness is affected by (1) the rate at which the MA's information system is updated; (2) the rate of change of actual program activities; and (3) when the information is actually used or required.
Integrity	Data have integrity when the system used to generate them is protected from deliberate bias or manipulation for political or personal reasons.
Confidentiality	Confidentiality means that clients are assured that their data will be maintained according to national and/or international standards for data. This means that personal data are not disclosed inappropriately, and that data in hard copy and electric form are treated with appropriate levels of security (e.g., kept in locked cabinets and in password protected files).

Functional Areas to Strengthen Data Management and Reporting and Data Quality

To address data quality challenges throughout the data management and reporting system, it is important to focus on the M&E system's key function areas. Table A2 shows these function areas and related questions to be answered in determining the strength of the data management and reporting system.

Table A2. Data Management Functional Areas and Key Questions to Address Data Quality

Functional Areas	Questions	Dimension of Data Quality
i. M&E structure, functions and capabilities	Are key M&E and data management staff identified with clearly assigned responsibilities?	Accuracy, Reliability
	Have the majority of key M&E and data-management staff received the required training?	Accuracy, Reliability
ii. Indicator definitions and reporting guidelines	Are there operational indicator definitions meeting relevant standards that are systematically followed by all service delivery points?	Accuracy, Reliability
iii. Data collection and reporting forms and tools	Has the MA clearly documented (in writing) what is reported to who, and how and when reporting is required?	Accuracy, Reliability, Timeliness, Completeness
	Are there standard data collection and reporting forms that are systematically used?	Accuracy, Reliability
	Are data recorded with sufficient precision/detail to measure relevant indicators?	Accuracy, Precision
	Are data maintained in accordance with international or national confidentiality guidelines?	Confidentiality
	Are source documents kept and made available in accordance with a written policy?	Ability to assess Accuracy, Reliability, Precision, Timeliness, Integrity and Confidentiality
iv. Data management processes	Does clear documentation of collection, aggregation and manipulation steps exist?	Accuracy, Reliability
	Are data quality challenges identified and are mechanisms in place for addressing them?	Accuracy, Reliability
	Are there clearly defined and followed procedures to identify and reconcile discrepancies in reports?	Accuracy, Reliability
	Are there clearly defined and followed procedures to periodically verify source data?	Ability to assess Accuracy, Reliability, Precision, Timeliness, Integrity and Confidentiality
v. Data utilization	Is the data collected being used to inform budgets and staffing decisions?	Other
	Is the data collected being used to monitor programming?	Other
vi. Links with national reporting system	Does the data collection and reporting system link to the MA's national reporting system?	To avoid parallel systems and undue multiple reporting burden on staff in order to increase data quality.

Answers to these questions can help highlight threats to data quality and the related aspects of the data management and reporting system that require attention. For example, if data accuracy is an issue, the IPPF RDQA can help assess if reporting entities are using the same indicator definitions, if they are collecting the same data elements, on the same forms, using the same instructions. The IPPF RDQA can help assess if roles and responsibilities are clear (e.g. all staff know what data they are collecting and reporting, when, to who and who) and if staff have received relevant training.

ANNEX B. INSTRUCTIONS FOR SAMPLING SITES

Determine the number of clusters and sites. The assessment team should work with the relevant MA staff to determine the number of clusters and sites within clusters. The appropriate number of sites and clusters depends on the objectives of the assessment; precise estimates of data quality require a large number of clusters and sites. Often, it isn't necessary to have a statistically robust estimate of accuracy. That is, it is sufficient to have a reasonable estimate of the accuracy of reporting to direct system strengthening measures and build capacity. A reasonable estimate requires far fewer sites and is more practical in terms of resources. Generally, 12 sites sampled from within four clusters (three sites each) are sufficient to gain an understanding of the quality of the data and the corrective measures required.

1. *More than one intermediate level.* In the event there is more than one intermediate aggregation level (i.e., the data flows from district to region before going to national level), a three-stage cluster sample should be drawn. That is, two regions should be sampled and then two districts sampled from each region (four total districts).
2. *No intermediate level.* If the data are reported directly from service delivery points to the national level (i.e., no intermediate aggregation sites), the site selection will be conducted as above (cluster sampling with the district as the primary sampling unit) but the data will not be reviewed for the intermediate level and results from service delivery sites will be aggregated to derive the national total.
3. *Prepare the sampling frame.* The first step in the selection of clusters for the assessment will be to prepare a sampling frame, or a listing of all districts (or clusters) where the MA is operating. The methodology calls for selecting clusters proportionate to size (i.e., the volume of service). Often it is helpful to expand the sampling frame so that each cluster is listed proportionate to the size of the program in the cluster. For example, if a given cluster is responsible for 15% of the clients served, that cluster should comprise 15% of the elements in the sampling frame. Be careful not to order the sampling frame in a way that will bias the selection of the clusters. Ordering the clusters can introduce *periodicity*; e.g. every 3rd district is rural. Ordering alphabetically is generally a harmless way of ordering the clusters.
4. *Calculate the sampling interval.* The sampling interval is obtained by dividing the number of elements in the sampling frame by the number of elements to be sampled. Using a random number table or similar method, randomly choose a starting point on the sampling frame. This is the first sampled district. Then proceed through the sampling frame selecting districts which coincide with multiples of the sample interval. The starting number + sampling interval = 2nd cluster. The starting number + 2 (sampling interval) = 3rd cluster etc.
5. *Stratify service delivery points.* Order the service delivery points within each of the sampled districts by volume of service (i.e., the value of the indicator for the reporting period being assessed). Divide the list into strata according to the number of sites to be selected. If possible, select an equal number of sites from each stratum. For example, if you are selecting three sites, create three strata (small, medium and large). If selecting two sites, create two strata. For six sites create three strata and select two sites per stratum and so on. Divide the range (subtract the smallest value from the largest) by the

number of strata to establish the cut points of the strata. If the sites are not equally distributed among the strata use your judgment to assign sites to strata.

6. *Select service delivery points.* For a large number of sites per district you can use a random number table and select sites systematically as above. For a small number of sites, simple random sampling can be used to select sites within clusters.
7. *Select 'back up' sites.* If possible, select a backup site for each stratum. Use this site only if you are unable to visit the originally selected sites due to security concerns or other factors. Start over with a fresh sampling frame to select this site (excluding the sites already selected). Do not replace sites based on convenience. The replacement of sites should be discussed with the funding organization and other relevant stakeholders if possible.

Know your sampling methodology. The sites are intended to be selected for the assessment as randomly (and equitably) as possible while benefiting from the convenience and economy associated with cluster sampling. You may be asked to explain why a given site has been selected. Be prepared to describe the sampling methods and explain the equitable selection of sites.

ANNEX C. SUMMARY OF THE IPPF RDQA PILOT REPORT FROM THE FAMILY PLANNING ASSOCIATION OF MALAWI

Pilot date: In May 2013, the IPPF RDQA was piloted with the Family Planning Association of Malawi (FPAM). The pilot was conducted by FPAM with the support of MEASURE Evaluation PRH, the IPPF central office, and the IPPF Africa Regional Office.

Offices involved: The tool was validated in the district offices and in the static clinics and community-based services in Ntcheu and Dowa; and in FPAM's central office in Lilongwe.

Table C1. FPAM Sites Assessed

No.	Site	District	Level
1	FPAM secretariat/central M&E unit	Lilongwe	Central
2	Ntcheu District Office	Ntcheu	District
3	Dowa District Office	Dowa	District
4	Ntcheu Static Clinic	Ntcheu	Service delivery
5	Ntcheu Outreach Clinic	Ntcheu	Service delivery
6	Dowa Static Clinic	Dowa	Service delivery
7	Dowa Outreach Clinic	Dowa	Service delivery

Selected indicators:

1. # of services provided: injectables (Depo Provera)
2. # of services provided: counselling for sexually transmitted infections (STIs)
3. # of services provided: HIV rapid tests

Period evaluated: The periods evaluated were January-December 2012 at the central office level, October-December 2012 at the district office level, and December 2012 for the service delivery level (static clinics and community-based services).

FPAM data flow is shown in figure C1.

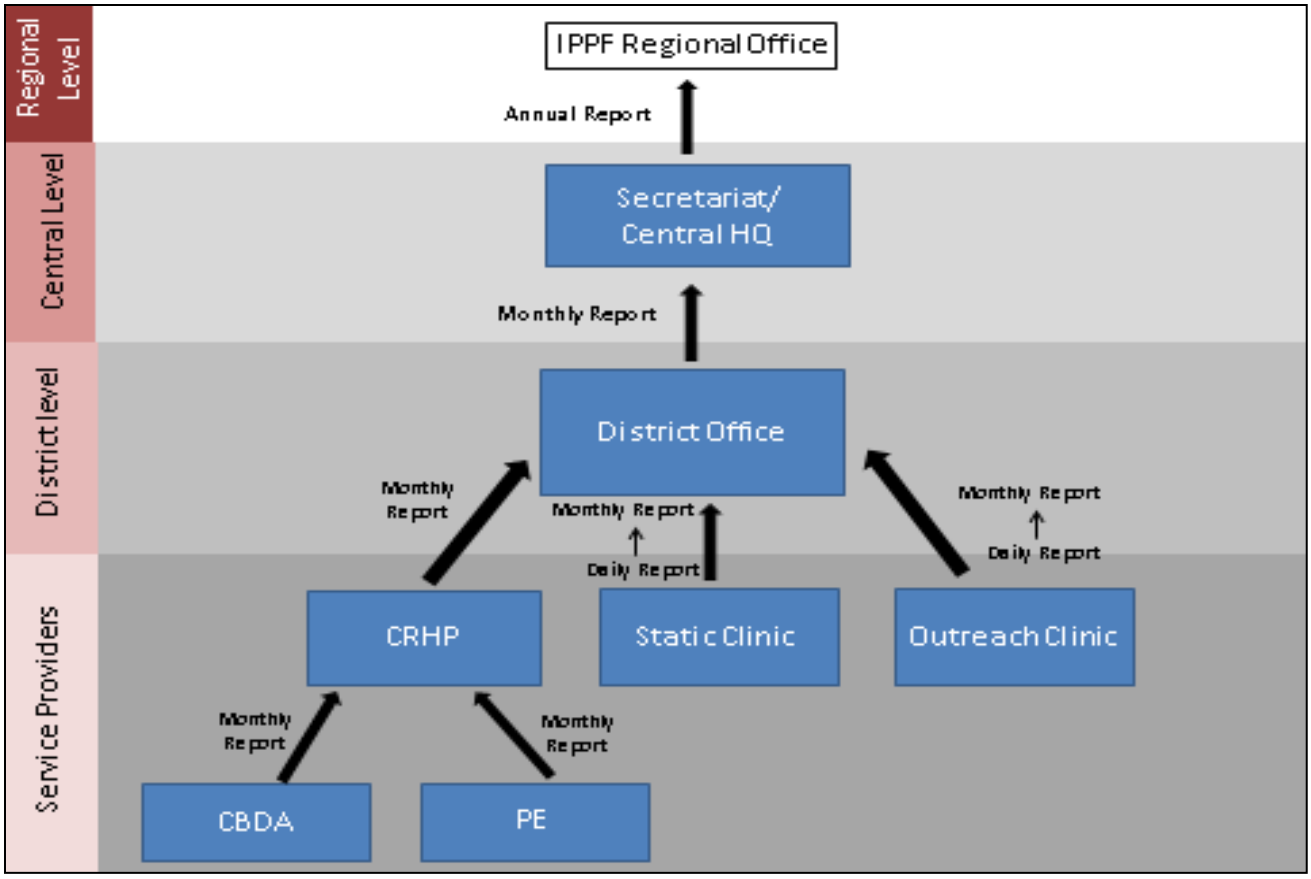

Figure C1. FPAM data flow.

A summary of findings is presented in table C2.

Table C2. Systems Assessment Scores, by Site and Functional Area

	I M&E Structure, Functions and Capabilities	II Indicator Definitions and Reporting Guidelines	III Data Collection and Reporting Forms / Tools	IV Data Mgmt. Processes	V Links with National Reporting System	Average, all areas
Central Level						
Secretariat	2.7	1.9	2.8	1.8	N/A	2.3
District Level						
Ntcheu district office	3.0	2.3	2.5	1.4	3.0	2.4
Dowa district office	2.7	3.0	2.8	1.4	3.0	2.6
Average, district level	2.8	2.6	2.6	1.4	3.0	2.5
Service Delivery Sites						
Ntcheu static clinic	2.5	2.0	2.4	1.4	2.7	2.2
Ntcheu outreach clinic	2.3	2.0	2.0	1.6	3.0	2.2
Dowa static clinic	3.0	2.0	2.8	2.3	3.0	2.6
Dowa outreach clinic	3.0	2.0	2.8	2.0	3.0	2.5
Average, service delivery sites	2.7	2.0	2.5	1.8	2.9	2.4
Average, all levels	2.7	2.2	2.6	1.7	2.9	2.4

Recommendations:

In general, the results show that FPAM's data management system is fairly strong, though there are some gaps that need to be addressed, particularly in its data management processes. Overall recommendations include:

- Define the different services provided, develop clear guidelines on how the services should be reported, and communicate this to all service providers and district managers.
- Conduct refresher training for providers and managers on indicator definitions, and disseminate written indicator definitions to all clinics and district offices.
- Avoid stockouts of client registers and consultation booklets to support consistent data collection and recording at service delivery points.
- Ensure all services provided are included in client registers with enough space to record details and precision (for example, include STI counselling and STI treatment as separate columns in the client register).
- Consistently roll out unique patient identifiers at all clinics.
- Establish and implement a written data backup procedure at all data aggregation points.
- Incorporate data quality feedback in quarterly management meetings.
- Use data collected to inform and improve program performance at all levels.
- Ensure all client data (including old consultation booklets and registers) are stored in line with national confidentiality standards.
- Document procedures for data collection, reporting and management for each level of aggregation and distribute these to all clinics and district offices. In addition, develop a standard training curriculum on data collection and reporting so that all new staff members receive orientation.
- Print and keep hardcopies of the electronic summary sheets at the static clinics, and monthly reports at district offices and at the Secretariat.

Finalize and implement the draft M&E plan, which covers many of the above recommendations.