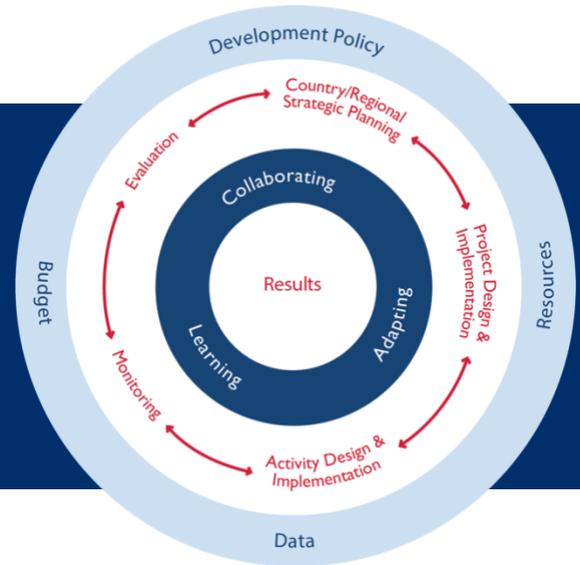


# PROGRAM CYCLE

## How-To Note: Conduct a Data Quality Assessment



This resource describes how to conduct a Data Quality Assessment (DQA).

How-To Notes provide guidelines and practical advice to USAID staff and partners related to the Program Cycle. This note was produced by the Bureau for Policy, Planning and Learning (PPL).

### Introduction

This How-To Note supplements [ADS 201.3.5.7](#). It provides guidance about how to conduct a Data Quality Assessment (DQA). High-quality monitoring indicator data are the cornerstone for evidence-based decision making and builds confidence in our programs. The primary audience includes the Program Office, Monitoring and Evaluation (M&E) Specialists, Contracting Officer's Representatives (CORs) / Agreement Officer's Representatives (AORs) / Government Agreement Technical Representatives (GATRs), implementing partners (IPs), third party M&E support contracts, and others who may be involved with a DQA.

### DQA Fundamentals

A DQA is a process to help USAID staff and implementing partners understand the strengths and weaknesses of their data and the extent to which the data can be trusted to influence management decisions. A DQA refers to USAID's standard practice for assessing data quality, documenting any limitations in data quality, and establishing a plan for addressing those limitations. A DQA should be conducted to understand and document the extent that data meet or do not meet the five data quality standards documented in ADS 201.3.5.7:

1. **Validity:** Data should represent the intended result clearly and adequately.
2. **Integrity:** Data should have safeguards to minimize risk of bias, transcription error, or data manipulation.
3. **Precision:** Data should have a sufficient level of detail to permit informed management decision making.
4. **Reliability:** Data should reflect stable and consistent data collection processes and analysis methods over time.
5. **Timeliness:** Data should be available at a useful frequency, should be current, and should be timely enough to influence management decision making.

Monitoring data should reasonably meet these five data quality standards to be useful for monitoring USAID programs, reliable for management decisions, and credible for reporting.

Reporting and using data that do not meet these standards could result in an erosion of confidence in USAID's credibility and poor decision making.

## WHAT DATA REQUIRE A DQA?

Per ADS 201.3.5.7, USAID requires staff to conduct a DQA for all externally reported indicator data. If an indicator's data quality has not been assessed, then it cannot be reported externally.

"Externally reported" denotes any indicator reported outside of USAID. This includes all indicator data reported annually in the Performance Plan and Report (PPR), used in public announcements or to respond to Congressional inquiries, and any other uses beyond internal USAID management.

If a performance indicator is not reported externally, a DQA is not required. However, it is good practice to periodically conduct a DQA for all indicators. Managers should be aware of the strengths and weaknesses of the data they collect and use to monitor performance. The Bureau for Policy, Planning and Learning (PPL) encourages USAID staff to conduct a DQA on indicators used to make management decisions, even if these data are not externally reported. This ensures better data quality and strengthens staff understanding of the data collected.

It is not always known if data shared within the Agency will be used in an external document. For example, if a Mission receives a data request from a Washington bureau, the Mission should inquire if the data will be shared externally. If a DQA has not been conducted for the requested indicator data, or if the Mission is wary of the quality of the data that it is reporting, the Mission should alert those requesting the data about any quality concerns. The Mission may also need to conduct a DQA to examine the quality of the indicator data.

## WHEN IS A DQA CONDUCTED?

For a new indicator that is subject to a DQA, a DQA must be conducted after data collection has started and within 12 months prior to the external reporting of the indicator data for the first time (such as in the PPR or external communications documents). It is good practice to assess potential data quality issues prior to the start of data collection, but a complete DQA can only be conducted after data has been collected. For example, prior to the start of data collection, Missions may choose to assess the potential reliability of the collection methodology as defined in the [Performance Indicator Reference Sheet \(PIRS\)](#). Once data collection has started, the DQA will examine how the data are actually collected in a reliable manner.

After the initial DQA, a DQA must be conducted at least once every three years. For example, if a mission starts collecting data on a performance indicator in February of 2017, it must conduct the DQA before reporting the data for this indicator in the PPR in December of 2017. After the 2017 DQA has been completed, another DQA is not required for this indicator for another three years thereafter, but the mission may choose to conduct DQAs more frequently, if needed.

The requirement to conduct a DQA applies to the indicator reported by the USAID Operating Unit (OU), regardless of how many implementing partners might collect data for the indicator. A single Data Quality Assessment should be comprehensive in its assessment of an OU's indicator. If multiple implementing partners contribute to an OU's indicator, the quality of the indicator data provided by those partners (or as many as feasible) should be examined in the process of conducting a DQA on that indicator, but *separate* DQAs are not required for each partner contributing to the indicator. DQA findings should be documented as described below and shared with all partners reporting on the assessed indicator.

Similarly, a change in the implementing partner or partners collecting data for an indicator does not trigger the requirement for a new DQA. For example, if a DQA was conducted on an indicator in 2017, but a new

implementing partner started collecting data for that indicator in 2018, no additional DQAs would be required in 2018. The next required DQA for that indicator is still 2020. Nonetheless, an addition or change in implementing partners collecting data for an indicator is a good reason for USAID staff to conduct a non-required DQA. This helps ensure consistent data quality and improves USAID confidence in the reporting and analysis of the data that are received.

USAID staff may choose to conduct DQAs more frequently, if desired. A number of circumstances might prompt a manager to consider conducting a DQA, including:

- When an indicator is identified as having a high risk of error in implementation (e.g., the indicator may include unclear or inherently complicated data collection methodology);
- When indicator data deviate excessively from the target (e.g., the indicator has a target of 100 and the actual data that are reported is 952);
- When stakeholders or implementers suggest there may be issues with indicator data;
- When staff seek to confirm that a previously identified data quality problem has been resolved; and
- When the indicator data are critically or strategically important (e.g., cited in public comments made by United States Government officials).

## WHO IS RESPONSIBLE FOR THE DQA?

USAID staff, as designated in Mission Orders, or as recommended in the [Additional Help: Staff Roles and Responsibilities for Monitoring, Evaluation, and Learning](#), are ultimately responsible for the content and timely completion of the DQA. The Mission or Washington OU that reports the indicator data is responsible for the indicator's data quality, which includes ensuring the DQA is completed as required. USAID staff are encouraged to conduct or participate in the DQA. This promotes internal understanding and ownership of the strengths and weaknesses of the data.

### Conducting a DQA for a G2G Agreement

The structure of a Government-to-Government (G2G) agreement can make it difficult to conduct a DQA. In addition, assessing the quality of partner government collected data has the potential of causing friction between USAID and the partner government. When developing the agreement, USAID should set expectations with the partner government. Before any DQA is conducted, USAID and the partner government should discuss expectations and methods for mitigating or preventing possible issues that may arise during a DQA. This should be discussed during the development of the G2G Activity MEL Plan, and again at the time of the quality assessments. For more information, see [Additional Help: Monitoring and Evaluation for a G2G Agreement](#).

In cases when a third-party contractor is hired to conduct a DQA, including Mission M&E support contract personnel, it is still essential for USAID staff, especially the COR/AOR/GATR, to oversee the DQA and have an understanding of the data quality issues uncovered. As much as possible, USAID staff should be engaged and coordinate any discussions between a contractor conducting a DQA and the implementing partner who collects the data being assessed. This will enable USAID staff and the implementing partner to work together to address any uncovered data limitations.

While implementing partners should have their own data quality assurance procedures in place, PPL does not recommend that an implementing partner conduct a USAID DQA on data that the implementing partner themselves collects and reports to USAID, as this would pose a conflict of interest.

For indicators only used internally by a Mission, Washington OU, or only by an implementing partner, PPL encourages conducting a DQA when it is determined to be useful. If a DQA is conducted, a COR/AOR and implementing partner may work together to assess the data.

In the following sections, the term “DQA team” refers to the person or persons who will actually conduct the DQA. It is meant as a general concept, and is not a formal designation

## How to Conduct a DQA?

The process for conducting a DQA varies depending on how and by whom the data are collected. The process for conducting a DQA for two typical sources of indicator data, primary data collected by implementing partners and secondary data collected by other institutions, are described in the following sections. In addition, where in-person DQAs conducted by USAID staff are not possible due to non-permissive environments or other constraints, they can be conducted remotely including through phone or video interviews with implementing partners, partners sharing photos or video clips, document and data collection instrument review, or with the support of third-party monitors (TPMs) or local staff.

### FOR PRIMARY DATA COLLECTED BY IMPLEMENTING PARTNERS

The DQA planning process includes preparation, desk review, field review, documentation, and a mitigation plan to address data limitations (as needed).

#### Preparation

The first step of conducting a DQA is selecting which indicators will undergo a DQA and notifying the relevant partners or stakeholders.

Each indicator's PIRS notes the date when the next DQA is planned. A Mission or Washington OU may find it useful to consolidate this information to create a centralized calendar or spreadsheet that tracks the years, or timelines, for required DQAs. The [PMP Task Schedule](#) or Activity MEL Plans' task schedule may help with this.

With good planning, USAID staff can coordinate to conduct DQAs of multiple indicators at the same time. Three possible considerations for grouping indicator DQAs include:

- **The partner responsible for an indicator:** For example, one partner might be responsible for collecting data for multiple indicators that are reported externally. It might prove easier to visit their offices once to conduct the DQAs for all indicators, instead of multiple visits throughout the year to do a DQA on each individual indicator.
- **Geographic location of the data source:** For example, multiple externally reported indicators might have data collected from a single region. It might make most sense for time and budget resources to send the DQA team to the region once to conduct a DQA on multiple indicators. This might be particularly true for regions that are far or not easily accessible from the USAID Field Office base.

#### 5 Steps of Conducting a DQA

**Preparation:** Select indicators and notify stakeholders

**Desk Review:** Review reporting data, PIRS, Mission Order for Monitoring, etc.

**Field Review:** Verify data, check implementing partners' understanding of the indicator

**Documentation:** Complete the [DQA Checklist](#) and update the indicator's PIRS

**Mitigation Plan** (as needed): work with the implementing partner and others to address data limitations

#### Performance Management Plan and DQA

##### The Performance Management Plan (PMP)

is a Mission-wide tool for planning and managing the process of (1) monitoring strategic progress, project performance, programmatic assumptions, and operational context; (2) evaluating performance and impact; and (3) learning and adapting from evidence.

Missions should include a link to completed DQAs in their PMPs to ensure information from DQAs are available and accessible when needed. The PMP includes a Schedule of Performance Management Tasks and Responsibilities and Associated Resources, which identifies the timeframe and office or individual responsible and expected human or financial resources needed for monitoring, evaluation, CLA efforts, portfolio review processes, and CDCS mid-course stocktaking. By including DQAs in the Schedule, missions can sync DQAs with the other MEL tasks to appropriately allocate resources and coordinate roles and responsibilities. For more information, see [Additional Help: Prepare and Maintain a Performance Management Plan \(PMP\)](#).

- **Functional sector or project to which the indicator reports:** For example, an AOR/COR might decide that for management organization or other purposes that it makes the most sense to simultaneously conduct DQAs for all externally reported indicators in their portfolio.

USAID should notify the partner well in advance of the DQA to give them time to gather information and staff resources. Some indicators aggregate data collected by multiple implementing partners. For these indicators each partner should be notified, even though it may not be feasible to visit every partner collecting the indicator data. Partners should provide supporting documentation to USAID for each indicator that will be assessed, including any data collected by sub-contractors, sub-grantees, or sub-agencies.

## Desk Review

The DQA team should review available documents related to the indicator before going to the field to verify data in cases where the DQA is in-person. For indicators that have previously undergone a DQA, the focus should be on documents and data that have been created and collected since the previous DQA was conducted. These documents include:

- The Activity MEL Plan to understand the data management processes as well as roles and responsibilities of data collectors;
- The PIRS to obtain key information about the indicator (e.g., indicator definition, methodology and construction, data source, reporting frequency, etc.);
- All reports to USAID in which performance data were reported (e.g., quarterly reports, annual reports, and other special reports) in order to have a more comprehensive understanding of the narrative supporting the data; and
- In some cases, the implementing partner’s work plan, which may also prove useful to the DQA team to help the team identify what activity efforts or specific interventions are producing the data.

This desk review will help the DQA team understand the data and analysis requirements for which the implementing partner should be held accountable. It will also help the DQA team to understand the data processing (e.g., from data collection to data entry) of the indicator to be able to make a concrete plan for the field review. If reviewing the documents does not provide the DQA team with a complete view of how the data are processed, the team should meet with partner staff, especially any M&E and operations staff, to understand the data processing flow. This will help the team better plan for the field review.

## Field Review

The field review includes visiting the offices of implementing partners, or other organizations, where data are stored to observe and review any databases, filing systems, and data verification (including original participant sign-in sheets, photos, survey or polling data, curricula for trainings, sales records, etc.). The DQA team may use the recommended [DQA Checklist](#), which includes a suggested template to review data against the five data quality standards. Missions and Washington OUs are encouraged to customize the checklist to best fit their DQA needs and context.

### Helpful Hint

Notification of an impending DQA can cause stress for the implementing partner, given performance audit ramifications and potential uncertainty of USAID’s expectations. It is important to inform the partner about the purpose and process of a DQA, and any follow-up actions if there are problems identified with the data. The DQA team should clearly communicate what is expected of the partner, who should represent the partner during the DQA, the format of the DQA, and how any findings will be handled. It is recommended that the DQA team reiterate that both USAID and the partner are working together to achieve results, and that if any problems or data quality limitations are uncovered, USAID and the partner will work together to resolve them.

When feasible and opportune to do so, the DQA team should be prepared to spend a few hours at each location of the organization storing the data, in order to work through the entire DQA Checklist. The DQA team should also meet with partner staff to discuss the Activity MEL Plan and PIRS, understand data collection challenges in the field, and assess the partner staff's understanding of the indicator.

There may be instances when it is not feasible to personally visit each location of an organization where data are collected or stored. For example, some implementing partners work in multiple locations across a large region. In such cases, the DQA team may determine that it is sufficient to go to the partner's local headquarters where the data are centrally stored. Here, the DQA team will examine the data collection processes, focusing on how data are collected, stored, and then transferred from the satellite field offices to the partner's local headquarters. Another example is when there are multiple implementing partners collecting data for a single indicator. In this case, the DQA team may determine that it is sufficient to select a sample of implementing partners and offices to examine in-person.

When considering the extent of field review necessary to adequately assess data quality, Missions and Washington OUs should consider the trade-offs between the level of data quality assurance required and the cost associated with conducting a DQA. Some questions the DQA team can answer to help determine how extensive the field review should be can include:

- Does the DQA raise concerns about the quality of data? Do these concerns merit a further examination of the data?
- Does the DQA team expect the same level of quality beyond the sample it has examined?
- Are the data being used for management or reporting purposes that are of such importance that greater time and effort should be spent on conducting the DQA?
- Does the DQA provide sufficient understanding of the quality and limitations of the data?

## Documentation

The results of a DQA are documented in the DQA report (which is often the completed USAID DQA Checklist) and in an update to the PIRS for that indicator (such an update includes noting any uncovered data limitations and planned mitigation efforts, and updating the date of the next DQA).

The Mission defines where to store DQA reports in the Mission Order on Performance Monitoring. A DQA report should be stored along with the indicator's PIRS and any other information relevant to the indicator. The DQA report for any indicator which data are being collected by multiple sources (often multiple implementing partners) should be stored in a centralized place so all parties collecting and using the indicator have easy access to the information uncovered in the DQA. People who should have access to an indicator's DQA report may include: Project Managers, CORs/AORs/GATRs, M&E Specialists, and the Program Office. DQA reports should also be shared with all partners collecting data for the indicator.

In addition to storing the DQA report in a centralized place, the COR/AOR/GATR should retain any partner-specific documentation relative to the indicator.

## Mitigation Plan

Once the DQA is completed, the USAID staff should assess whether any mitigation actions are needed to address data quality concerns. If there are some data quality concerns, but managers feel comfortable that the data are of sufficient quality and mitigation would be too costly when compared to marginal benefits,

### Helpful Hint

Note that even if there may be problems with the quality of data, USAID staff should not have to discard or ignore the data when making decisions. If the data are the best quality that is reasonably and practically available for a given indicator, and all mitigation efforts have been attempted, then the data can still be reported, but there should be transparency about the associated quality limitations.

then there may be no need for further action beyond documenting the data limitation. On the other hand, the identification of data quality concerns may call for a mitigation plan, particularly if the data will be used to inform decisions or if the data are reported externally. The COR/AOR/GATR, in consultation with the Project or Activity Manager, should clearly document the decision and justification for action or no action in the DQA report and a timeframe for corrective action. The DQA Checklist includes a space to record “Actions needed to address limitations prior to the next DQA.” Any data quality limitations must also be clearly documented in the data quality section of the indicator’s PIRS.

When further action is required to mitigate data quality concerns, mitigation plans may include steps to:

- Adjust or replace problematic indicator data;
- Triangulate data or examine data sets for trends;
- Clarify language in the PIRS;
- Ensure all partners are collecting data using the same methods by checking that all have access to the PIRS and all are using the same tools or approaches;
- Create safeguards to improve data integrity, such as controlling who collects or inputs data;
- Conduct spot checks of the source organization and its activities, files, and data management systems and recommend improvements to such systems;
- Discuss data with other users (e.g., other donors) to identify any relevant actions that may already have been taken; or
- Utilize technical experts to conduct further investigations of the problematic data. Technical experts could include: data quality experts, auditors, survey methodologists, management information systems experts, gender indicator experts, Global Information Systems (GIS) experts, and others.
- Troubleshoot the data management system to assess systematic weaknesses in the data management structures and systems.

If the DQA reveals the quality of the data are of such poor quality that the data are no longer useful, or are found to cause misleading conclusions, then PPL recommends the data are not reported until data mitigation efforts result in higher quality data and USAID staff have confidence in the indicator data.

## FOR SECONDARY DATA COLLECTED BY OTHER INSTITUTIONS

When the data reported are from secondary data sources that USAID does not have direct control over (e.g., host government statistical offices, international organizations such as the World Bank or United Nations, etc.), then USAID may have less access to the supporting documentation. **If such data are used for a USAID performance indicator that is externally reported, then DQA requirements still apply.**

In reviewing secondary data, the DQA Checklist can be used as a guide. If there are outstanding questions or concerns about secondary data, then USAID staff may consider setting up a meeting with an appropriate counterpart from the secondary data source organization to talk through any questions about the quality of the data and document any data quality issues when reporting secondary data.

### Helpful Hint

Many third-party data sources, including curated data available through USAID's IDEA data portal, are accompanied by detailed indicator definitions and methodology about their indicator data collection process. It is important to review this information regularly to understand the methodology used. If there are sudden and unexpected changes in the data - look to see if there are changes to the methodology.

## REMOTE DATA QUALITY ASSESSMENTS

Remote DQAs are still guided by the Agency's DQA requirements and fundamentals. The main difference relates to replacing in-person field reviews with virtual engagement with partners. While the field review includes visiting the offices of implementing partners, their sub-partners, and other organizations to observe where data are stored and review any databases, filing systems, and data verification tools (including original participant sign-in sheets, photos, survey or polling data, curricula for trainings, sales records, etc.), remote reviews could necessitate sending copies or images of some of these primary source documents by mail or electronically ahead of the virtual review as well as holding the actual review virtually. A number of tools can be employed for remote DQAs, including land-line phones, Internet-enabled mobile phones, video calls, and satellite imagery. To decide which tools are best suited to your needs, consider accessibility, affordability, and adoption.

- If using a virtual platform (Google Meet, Zoom, Blue Jeans, etc.) to hold the review, consider the internet use capabilities of the partners and stakeholders. Consider conducting the review by telephone if internet use capabilities are low.
- Schedule DQAs based on any previously agreed upon performance management tasks schedule. Give participants adequate advance notice and provide relevant documentation prior to the virtual visit.
- Request and review documents including Activity MEL Plan, PIRS, and partner reports with data on indicators under review as well as supporting documents.
- During the virtual DQA, request that these documents be handy should you need further clarifications.
- Develop an agenda for the meeting and identify an external or internal facilitator, as appropriate, to facilitate conversations around the five data quality standards in the checklist.
- During the virtual meeting, review the partner's M&E systems, processes, and practices to determine the strengths and weaknesses in the data and data collection processes. Discuss the Activity MEL Plan, PIRS, and any data collection challenges. Assess the partner staff's understanding of the indicator.
- Request photos in advance or by email, or use live video or shared screens via webinar platforms to review any physical or electronic databases, filing systems, and data verification procedures (including participant sign-in sheets, photos, survey or polling data, curricula for trainings, sales records, etc.)
- Where applicable, discuss the data collection processes, focusing on how data are collected, stored, and then transferred from the satellite field offices to the partner's local headquarters.
- Document all findings in the Mission's DQA protocol and take full notes during the virtual meeting, or record the meeting if software allows and all participants agree.
- Set up action plans and mitigation as described above for in-person DQAs.
- Remember to take all the steps required if PII are being reviewed as part of the DQA.

## Supporting Data Quality Outside of the DQA Process

The DQA is just one process USAID uses to assess data quality. There are many actions USAID staff can take throughout the course of a strategy's, project's, and activity's lifespan to help improve data quality.

### DATA VERIFICATION DURING A SITE VISIT

Site visits are an important component of USAID's oversight and quality assurance processes. One of the purposes of a site visit is to verify information provided to USAID about activity performance. During a site visit, the COR/AOR/GATR should verify any monitoring indicator data collected and stored. The COR/AOR/GATR can select specific indicators and review an implementing partner's understanding of the indicator's definition, data collection methodology, reporting chain, and supporting documentation.

The COR/AOR/GATR should also take this opportunity to meet with stakeholders, beneficiaries, implementing partner field staff, etc., to ask questions about the partner's experience with the indicator and share their observations, findings, or concerns beyond what the most recent DQA revealed. See the [How-To Note: Planning and Conducting Site Visits](#) for more information about site visits.

## **OTHER STEPS FOR SUPPORTING HIGH QUALITY DATA**

Some additional steps that can be taken to improve data quality include:

- Include data quality assurance in the scope of work of any activity solicitation. Expectations regarding performance monitoring, reporting, and DQAs can be further defined in the award and the Activity MEL Plan.
- Ensure all who collect or use data for an indicator have access to the PIRS developed for the indicator, including USAID staff, IPs, sub-partners, partner governments, and others as appropriate. A complete and comprehensive PIRS is the first step for promoting data quality. For more, see [Recommended PIRS Guidance and Template](#) in the [Monitoring Toolkit](#). PIRSs for standard foreign assistance indicators are available in the internal [Annual PPR Guidance](#). Implementing partners using standard foreign assistance indicators should receive the PIRS from their COR/AOR.
- Communicate USAID's data quality standards with partners as early as possible and throughout the award performance period. Share the DQA Checklist (or other DQA formats) with partners. This prepares the partner for a DQA and also provides information about how to prevent data quality issues from occurring.
- Consider hosting a meeting or training about data quality for the implementing partners. The training should reinforce the importance of data quality for performance management, strengthen understanding of USAID's data quality assurance and DQA processes, and promote mutual buy-in for high quality data.
- Consider having data quality conversations with implementing partners throughout the year, especially after each periodic performance report. This helps emphasize a shared commitment to data quality.
- Share lessons learned or best practices identified for improving data quality within the Mission or Washington OU, and among partners. This promotes awareness of common data quality concerns, mitigation strategies, and fosters an organizational culture dedicated to high quality data.
- Meet with other users of the performance data (such as other donors) to discuss options for improving and using performance data.