Data Quality Management Program (DQMP)

Contents

Introduction

The United States Department of Housing and Urban Development (HUD) created the requirements for data collection and reporting for a Homeless Management Information System (HMIS) through the 2004 Data and Technical Standards. Specifically related to data quality, the Standards state that "PPI (protected personal information) collected by a CHO (covered homeless organization) must be relevant to the purpose for which it is to be used. To the extent necessary for those purposes, PPI should be accurate, complete, and timely."

Since the time that the 2004 Data and Technical Standards were released, HUD has provided more guidance around the expectations and goals for data quality in HMIS. HUD's Office of Special Needs Assistance Programs (SNAPS) Data TA Strategy to Improve Data and Performance outlines three specific strategies related to data and performance. Strategy #2 is that "data systems collect accurate, comprehensive, and timely data." Additionally, HUD has provided several more resources that are related to data quality, including:

- CoC Data Quality Brief
- System Performance Improvement Briefs: Data Quality and Analysis for System Performance Improvement
- An Introductory Guide to Submitting Longitudinal Systems Analysis (LSA) Data for the AHAR

The Data Quality Management Program (DQMP) is a resource for the Continuum of Care (CoC), HMIS Lead agencies, HMIS System Administrators, and any other entity responsible for managing the local HMIS implementation. It is imperative that CoCs and other leadership entities, in the form of the CoC leadership and/or a Data and Performance Committee or other committee tasked with providing HMIS oversight, are involved in the creation and monitoring of HMIS data quality policies and management.

This product was developed to be used by CoCs and HMIS Leads to create a comprehensive HMIS DQMP and framework tailored to meet local needs. The intent of this product is to build upon existing data quality resources and tools published by HUD and the federal partners. CoCs and HMIS Leads should have a comprehensive DQMP framework that will benefit the overall community and improve data quality in HMIS. This DQMP framework needs to be measurable, actionable, and an iterative process that is monitored on an ongoing basis. This product provides the ability for CoCs and HMIS Leads to work together to learn where the community is currently as it relates to data quality, why they are where they are, what they can do to improve, and how to measure data quality over time.

Finally, this product recognizes that CoCs across the country are in very different places as it relates to data quality monitoring and management. Some CoCs have no codified process in place and others have a strong DQMP in place that is measurable, actionable, comprehensive, and reviewed and updated on a regular basis. This document is available to CoCs at any point on this continuum and can be a resource either as a community is creating a DQMP for the first time or is reviewing and updating an already existing, very strong DQMP.

Why Does Data Quality Matter?

Given the importance of HMIS data and reporting to tell us how we are doing at addressing and solving homelessness, HMIS data quality cannot be overstated. A lack of HMIS data quality means that the story the community is presenting about homelessness is not a true reflection of reality, whether that story is being told nationally, statewide, or locally. At the federal level, many reports are affected by a lack of data quality, regardless of whether the projects entering data into HMIS are federally funded, including the System Performance Measures (SPMs), Longitudinal System Analysis (LSA), and the annual Point-in-Time (PIT) Count and Housing Inventory Count (HIC).

The LSA report, produced from a CoC's HMIS and submitted annually to HUD via the Homelessness Data Exchange (HDX) 2.0 provides HUD and CoCs with critical information about how people experiencing homelessness use their system of care. The data quality in HMIS directly affects how confident a CoC can be in their interpretation of the LSA. The LSA page on the HUD Exchange provides guidance for CoCs about how to use and interpret their LSA, as well as for HMIS software providers about how to program the report.

Communities are moving toward mapping and visualizing their homeless services system, but these maps and visualizations are only as accurate and useful as the data in HMIS, and poor data quality can lead to inaccurate conclusions about how the system is functioning. When CoCs use HMIS data to inform their community, stakeholders, and the overall public about how they are addressing and solving homelessness, HMIS data quality is imperative.

CoCs using HMIS data to make data-informed decisions related to funding and allocation of resources must have confidence that the data quality in HMIS is accurate to make good decisions. Not only is this relevant in the annual CoC Notice of Funding Available (NOFA) process, it is also important for state and local funding decisions. The use of HMIS data in a performance- and data-informed decision-making process is an excellent opportunity for communities to encourage and incentivize high HMIS data quality.

Most importantly, the data in HMIS is often used to assess and prioritize individuals at risk of and experiencing homelessness for the community's coordinated entry process. To ensure that communities are prioritizing the most vulnerable individuals, as well as to ensure accurate and successful referrals to housing programs, the data quality in HMIS must be a priority for all.

Data Quality Management Program Overview

A comprehensive DQMP includes four key components:

- Data Quality Plan
- Enforceable Agreements
- Monitoring and Reporting
- Encouragements and Enforcements

Each piece of the DQMP builds off the other and the process is iterative and continuous. In order to be effective, all entities involved must know their roles and responsibilities related to the DQMP and work together to foster an environment that supports high-quality data.

To be actionable across the four major components, the DQMP must:

1. Identify the specific HMIS stakeholders involved in the development and implementation of the DQMP. Roles and responsibilities across all stages of data quality management—from collection and entry to management and monitoring—should be clearly documented in the Data Quality Plan and governance documents.
2. Determine—through a transparent decision-making process—the data quality benchmarks for each component of data quality (completeness, accuracy, timeliness, and consistency) by project type.
3. Establish enforceable agreements that will reinforce policies and procedures for implementing the data quality plan and that set out encouragements and enforcements for attaining data quality standards.
4. Implement a data quality monitoring process with clear timeframes, communication protocols, and public availability of data quality benchmarks by the HMIS-participating agency or project.
5. Identify appropriate encouragements and enforcements that will motivate HMIS stakeholders to meet data quality benchmarks and improve monitoring and reporting outcomes.

This product will discuss the four components of a comprehensive DQMP and focus on action-oriented steps a community can take in each component to ensure the process is ongoing and can respond to changes as the community's data quality changes.

Data Quality Plan

The Data Quality Plan serves as the community's overall framework for data quality, including data monitoring and quality control. It provides benchmarks for completeness, accuracy, timeliness, and consistency, which are informed by the community's baseline. A Data Quality Plan defines the local reasons why data quality in HMIS is a focus, federal incentives, and federal requirements. It includes the roles and responsibilities of each entity involved in the process and is a key tool ensuring the CoC's commitment to measuring and increasing data quality. This includes clarifying expectations for high data quality and the inclusion of CoC leaders in data quality expectations.

Who to Involve: To get started developing the data quality plan, identify the appropriate stakeholders who should be part of the policy and procedure development process. Ideally, this would include a wide representation of stakeholders across the CoC that can provide input on historical data quality efforts in the CoC, while offering strategic vision to recommend data quality performance goals the CoC should strive to achieve in the future. This may include staff from the HMIS Lead, Collaborative Applicant, committee membership, HMIS-participating organizations, and other membership across the CoC. Ultimately, the data quality plan must be reviewed and approved by the CoC's authorizing entity to take effect (§ 578.7(b)(3)).

Importance of Defining Roles and Responsibilities:

Determining appropriate roles and responsibilities is key for ensuring clear expectations across stakeholders when implementing a DQMP. Be sure to utilize the Roles and Responsibilities Worksheet to determine who is responsible for which parts of each major component of the DQMP: Data Quality Plan; Enforceable Agreements; Monitoring and Reporting; and Encouragements and Enforcements and make sure these roles are clearly communicated and documented across the CoC. Keep in mind HMIS data quality management roles and responsibilities may look different across each community depending on the staff resources and capacity available. A community may have more (or fewer) data quality-related roles than what is listed, and the worksheet should be customized locally to account for these differences for managing and improving data performance in the CoC.

Primary Components of a Data Quality Plan: While not all data quality plans will or should be the same, below are primary components of a comprehensive data quality plan which CoCs can use as a baseline and continue to build out.

- **Introduction and Level-Setting:** The introduction should include an explanation of why the CoC has created a DQMP—not only why it matters at the broader systems level, but also why it matters locally, with any locally relevant reasons. This should set the tone for the overall framework surrounding HMIS data quality within the CoC.
- **Locally Defined Benchmarks:** The data quality plan should set desired targets as well as minimum thresholds for each data quality standard. The plan should also distinguish data quality expectations by project type. To start defining what high-quality data means locally, it may help to seek out various perspectives to answer this question, as this ensures a common understanding and increases buy-in at all levels. Start with where the CoC's data-quality levels are currently and set benchmarks that are ambitious but realistic. Note that the current status for completeness, accuracy, timeliness, and consistency may differ by project type and benchmarks should reflect that. While there will be local considerations that drive the importance of data quality, the HUD SNAPS Data TA Strategy will help the CoC align with HUD's priorities for data quality.

  Below is a description of the four primary indicators of data quality—completeness, accuracy, timeliness, and consistency—and considerations your CoC should take into account when developing what type of data quality benchmark is appropriate for your community.

Data Quality Indicator	Definition	Considerations for Developing DQ Benchmark
Completeness	The degree to which all required data is known and documented. Completeness can be measured across the following three areas: • **Client Record**—the completeness of a person's HMIS record for a given project enrollment, as measured by completed response categories for Universal and Program-Specific Data Elements. • **Bed Utilization**—the completeness of HMIS participation by bed units, with the total number of beds recorded or set up within HMIS divided by the total number of homeless beds within the CoC's geographic coverage area. • **Agency Coverage**—the completeness of HMIS participation by agency or homeless services provider, with the number of HMIS participating agencies divided by the total number of homeless services providers in the CoC's geographic area, including those funded by the CoC and ESG program, federal partner agencies, foundations, and private organizations.	Set a baseline for data completeness for each project type in the DQ Plan. CoCs should attempt to have as few null, missing, "data not collected," "client refused," and "client doesn't know" options as possible.
Accuracy	The degree to which data reflects the best representation of the client's real-world situation and the programs that provide housing and services. Accurate data is highly dependent on comprehensive training and a thorough understanding of HUD and federal partner HMIS data standards, as well as data collection protocols.	While most data inaccuracies will generally need to be determined by sufficient knowledge, training, and discretion, a few common examples of inaccuracies include: • Multiple open entries into the same project type for the same client • No defined head of household • Multiple defined heads of household Comprehensive and consistent training is key for ensuring data accuracy. This kind of training includes data collection protocols, data entry workflows, and regular updates/additional trainings when system changes are necessary.

Timeliness	The length of time that elapses between the participant data collection and HMIS data entry stages. The sooner data is entered into HMIS, the sooner it is available for reporting purposes, prioritization purposes, data analysis purposes, and making data-informed decisions.	The timeliness baseline may differ by project types, with some requiring more stringent data timeliness standards. Consider which situations would require the CoC to set a more stringent timeliness standard (e.g., for care coordination) vs. less stringent requirements.
Consistency	The degree to which all data is collected, entered, stored, and reflective of the use of HMIS as a standard operating procedure. Consistency will be representative of how well completeness, accuracy, and timeliness standards have been operationalized across the data collection and entry stages. Consistency may also refer to the data storage, table structure, and overall reliability of the HMIS database management process. In this regard, consistency bridges data quality across data collection, entry, and management stages and should be considered a shared responsibility across multiple HMIS stakeholders.	As with accuracy, strong data consistency also relies on excellent training—both for data collection and entry, as well as for project setup and report structures. Consistency in data entry for project types from provider to provider is essential. For example, a permanent supportive housing (PSH) project run by Provider A should have the same workflow as a PSH project run by Provider B. All stakeholders have a role in ensuring data consistency.

- **Encouragements and Enforcements**: This section includes specific ways in which the CoC both encourages and enforces data quality, as laid out in the CoC's overall DQMP. The plan must be quantifiable and actionable, both when entities are excelling at addressing data quality and when they are failing to do so. This section should also describe how frequently the CoC will review data quality reports and data analysis and other mechanisms by which the CoC will enforce and support expectations for data quality.
- **Improvement Plan**: Define what measures will be used to determine whether an entity needs to be put on an Improvement Plan. List the steps included in the Improvement Plan, as well as the entities involved in monitoring, encouraging, and enforcing the plan. State any consequences to an entity that does not follow through with the Improvement Plan.

Data Quality Plan Checklist: Review this checklist as a reminder of key components your plan should incorporate, as well as improvement and implementation strategies for managing the plan. The CoC's Data Quality Plan should be able to do the following:

- ✓ Clearly define data quality locally, why it matters, and how it fits into the overall efforts of the CoC.

- ✓ Outline the roles and responsibilities of each involved entity in the Data Quality Plan, including the CoC, HMIS Lead, participating organizations, and other key stakeholders.
- ✓ Incorporate the CoC's commitment to measuring and increasing data quality, including defining expectations for high data quality, processes for developing and approving the Data Quality Plan and any amendments to it over time, and how the CoC leadership is involved in maintaining expectations of data quality.
- ✓ Describe benchmarks for completeness, accuracy, timeliness, and consistency by project type, all of which will guide the CoC's monitoring and enforcement mechanisms.
- ✓ Clarify the CoC's expectations for bed coverage and describe the CoC's plan if coverage is not 100 percent.
- ✓ Provide expectations for bed utilization for projects that have beds targeted for persons experiencing homelessness and describe whether processes for ensuring significant under-utilization or over-utilization of homeless beds are reported accurately.
- ✓ Establish timelines regarding when incremental baselines will be met, including timelines from which the CoC's DQ baseline will be measured, timelines for reporting and monitoring, and timelines for making DQ corrections and improving performance.

Enforceable Agreements

Enforceable agreements are critical to the success of a comprehensive DQMP. Determining if the data quality expectations of the DQMP will extend to all homeless assistance and prevention projects or a subset of them, depending on the CoC's priorities, will also determine which organizations will be required to sign an agreement. Enforceable agreements must clearly define the expectations of participating organizations, how those expectations will be monitored, the roles and responsibilities of each involved entity, and what steps will be taken if the organization fails to uphold the expectations laid out in the Data Quality Plan, as well as what incentives will be provided.

Who to Involve: Include relevant entities that would be charged with developing or revising the agreement, adopting the agreement, and overseeing and monitoring the terms of the agreement with HMIS participating agencies and end users. Consider the variety of stakeholders that are required for putting the agreement into effect (such as the authorizing and acknowledging entities) and begin engaging them early to secure buy-in and ensure expectations are transparent.

Enforceable Agreement Checklist: The enforceable agreement should seek to include the following components, as determined applicable by your CoC:

- ✓ Clearly defined expectations of participating organizations and the monitoring process, reiterating the CoC's determined benchmarks and minimum standards.
- ✓ Description of how DQ measures will be monitored (specific criteria that will be monitored, as well as the timeline and frequency of monitoring).
- ✓ Reiteration of the roles and responsibilities of each involved entity, as defined in the Data Quality Plan.

- ✓ Description of the steps that will be taken if the organization fails to uphold the expectations laid out in the Data Quality Plan.
- ✓ Incentives for meeting and/or exceeding data quality targets.
- ✓ Minimum timelines for informing the CoC and HMIS Lead when a current project will end or a new project will begin.
- ✓ Terms of violating the agreement and steps for the appeal process, if applicable.

Monitoring and Reporting

Monitoring and reporting are the processes by which a community determines the degree to which they are meeting the benchmarks laid out in the Data Quality Plan. Monitoring includes a clearly defined process for when participating organizations are monitored, which entities are involved in monitoring, and what will be reviewed during monitoring. Reporting and analysis of data quality should happen on a consistent, ongoing basis in addition to the official monitoring process. If an organization will be monitored on any specific criteria, it should be clearly defined in the Data Quality Plan and included as a piece of the enforceable agreement. How organizations will be monitored should be clear and transparent, and so should the steps that will be taken if either the monitoring or reporting and analysis process results in findings that must be resolved. If there are findings, the resolutions to correct those findings should be actionable and time-bound.

Who to Involve: Implementing and overseeing the DQ monitoring process will involve a collaboration among different stakeholders across the CoC, such as staff from the HMIS Lead, Collaborative Applicant, HMIS-related committees, HMIS participating agencies, and other relevant CoC membership, depending on the CoC's structural composition and governance structure. You will want to engage the appropriate stakeholders who can effectively serve as the DQ monitoring entity, the DQ enforcement entity, and staff who will be responsible for managing and reporting DQ day to day at the agency level and across the CoC.

Primary Components of Data Quality Monitoring and Reporting:

- **Monitoring and Reporting Methods**: The monitoring process should clearly define how DQ monitoring is completed, such as through on-site monitoring, remote monitoring, or a combination. For example, some parts of the monitoring process can be completed remotely (e.g., data quality checks in HMIS), while others must be done on-site (e.g., matching paper copies of intake forms against records in HMIS). The CoC and HMIS Lead should also clearly describe the type of monitoring tools, reports, and measurement criteria that will be used to monitor DQ to the CoC's defined benchmarks. For instance, consider the tools that are currently available in the CoC to analyze and report on data quality, such as data quality reports, data visualizations, and utilization reports. Your CoC will need to weigh the benefits and risks of each monitoring method and choose the appropriate process and reporting methods that can best ensure objectivity, consistency, and ease of use throughout the monitoring and reporting process.
- **Monitoring and Reporting Frequency:** Consider how often monitoring will occur. If annual monitoring of each participating organization is not realistic, determine how

organizations will be selected to be monitored and when using a risk analysis method. For example, run data quality reports and determine which projects appear to be under data quality benchmarks and which are meeting and/or exceeding those benchmarks. Create a monitoring plan that addresses the under-performing projects first. Between monitoring periods, if the CoC has established regularly scheduled data quality reporting deadlines for ongoing DQ checks, these timelines should be documented and communicated widely to HMIS participating agencies. The CoC's DQ plan should clearly state how often analysis and reporting will occur and what timeline participating organizations have to address any data quality issues found during the DQ analysis and reporting process.

- **Designating a Monitoring Entity**: The roles and responsibilities of each entity involved in the monitoring process should be clearly defined and documented in the data quality plan. Roles may include the monitoring and oversight entity, the DQ enforcement entity, DQ trainers, as well as any staff who would be responsible for managing and reporting DQ at the agency level to meet applicable agreements.
- **Addressing Data Quality Improvement:** When participating organizations fail to meet the benchmarks as defined in the Data Quality Plan, there should be appropriate measures in place to be able to diagnose and resolve underlying DQ performance issues. CoCs and HMIS Leads should work collaboratively to create a Data Quality Improvement framework that addresses what a participating organization must do to amend data quality issues and within what timeframe.

***Tips for operationalizing effective data quality monitoring and improvement strategies**:

HMIS Data Quality Performance Monitoring and Improvement Strategies provides guidance to CoCs and HMIS Leads on the different methods through which DQ can be measured, as well as how to improve performance on front-end DQ indicators such as data completeness, accuracy, timeliness, and consistency. The resource also provides strategies

Monitoring and Reporting Checklist: The CoC's DQ monitoring and reporting process should clearly define the following:

- ✓ How often participating organizations are monitored and timelines for providing reports.
- ✓ The methods and tools through which DQ monitoring and periodic DQ reporting is completed.
- ✓ Which entities are involved in the monitoring and reporting process.
- ✓ How an agency's progress, or lack of progress, is documented and shared with the DQ enforcement entity over a specific period of time.
- ✓ Improvement mechanisms so agencies have an opportunity to improve data quality performance.

Encouragements and Enforcements

Encouragements and enforcements are used as part of the overall DQMP to both encourage and emphasize the importance of meeting the benchmarks, as laid out in the Data Quality Plan. What can be used as encouragements and enforcements will vary greatly from community to community and can range from public-facing DQ report cards and acknowledgment to increasing or decreasing funding allocations based on an organization's adherence to the Data Quality Plan.

Who to Involve: Include stakeholders that have the ability to take part in DQ improvement efforts through training and capacity building with HMIS participating agencies. Additionally, it is important to engage with the appropriate authorizing entities that have the ability to restrict HMIS access or funding or execute other measures in the event data quality performance violates the terms of the CoC's DQMP.

Primary Components:

- **Identifying community resources for encouragement and enforcements:** Determine what the community has available to use as encouragements and enforcements and clearly outline when those will be used. Common incentives include receiving public recognition for high DQ performance or using DQ performance as a basis for funding. For example, many communities use DQ performance as a scoring tool in the rating and ranking process for the annual CoC NOFA competition. Common enforcement mechanisms could include making DQ performance reports publicly available for low performers, issuing warnings, and (if necessary due to consistent DQMP violations) locking or rescinding user access or funding. If a community has limited incentives available, think through creative ways to encourage adherence to the Data Quality Plan. For example, is there a flexible funding source the community has available that can be used to reward high-performing agencies? In another instance, if low staff capacity at an agency is a reoccurring issue, try to find ways to minimize the capacity gap, such as connecting the organization to interns or graduate assistants interested in working in this field or identifying another provider that has capacity for the specific provider to "borrow" (i.e., use another provider's staff time to enter data into HMIS on behalf of the specific provider).
- **Communicating and sharing DQ performance and system-wide progress:** CoCs should develop robust communication strategies to keep stakeholders updated and engaged with system-level DQ performance, which may in turn further encourage HMIS-participating agencies to continue DQ efforts. For example, the CoC can release reports and briefs that describe the impact that improved data quality has had on the accuracy of SPMs, coordinated entry, and other local data analysis.
- **Ensuring encouragements and enforcements are effective:** The DQ monitoring and enforcement entity should be proactively assessing how HMIS participating agencies are responding to existing encouragements and enforcements. Build in consistent periods throughout the year to evaluate if changes are needed to current incentive and enforcement approaches and whether it makes sense to add a feedback mechanism to hear recommendations on approaches directly from participating agencies.

Encouragement and Enforcement Checklist: The CoC's encouragement and enforcement strategies should include the following:

- ✓ Clearly defined expectations under which circumstances encouragements or enforcements will be used, including frequency and method.
- ✓ Direct communication with HMIS stakeholders to share the CoC's progress towards achieving system-wide data quality goals.
- ✓ Continuous quality improvement mechanisms to ensure encouragement and enforcement strategies are effective.

Conclusion

A community's comprehensive DQMP includes the four components (Data Quality Plan, enforceable agreements, monitoring and reporting, and encouragements and enforcements) to be effective, actionable, and iterative. The process must be flexible and nimble enough to change as the data quality environment of a community changes. For example, if the benchmarks for data quality in a community's Data Quality Plan are easily met or exceeded on a consistent basis, the benchmarks should increase, with the enforceable agreements, monitoring and reporting, and encouragements and enforcements all reflecting the updated expectations. As another example, if the process used for monitoring and reporting is not successful in assisting organizations in meeting the benchmarks or increasing data quality, how this is done should be reviewed and updated with the Data Quality Plan, enforceable agreements, and encouragements and enforcements all reflecting the updated process.

Collaboration among all entities responsible for the CoC's DQMP is vital to ensuring an iterative and dynamic process. Creating an environment of trust and open communication will help to secure buy-in and active participation. Ultimately, strong data quality means access to real-time data showing the community's progress to end and reduce homelessness, including illuminating needs and gaps to inform strategic decision-making.

Appendix A. Roles and Responsibilities Worksheet

Background

The different roles associated with Homeless Management Information System (HMIS) data collection, operations, policy and procedure development, and data quality (DQ) monitoring and reporting can all play a meaningful part in upholding a Continuum of Care (CoC)'s DQ Management Program. This worksheet is intended as an exercise for CoCs to review each role/responsibility and consider which entity should be responsible for carrying out the task in their CoC. Keep in mind for some communities that roles and responsibilities listed may be filled by a single entity, shared across stakeholders, or not assigned at all. CoCs should note this on the worksheet and utilize this document to ensure clear expectations across stakeholders. More or fewer roles and responsibilities may exist in a community, and the checklist should be customized locally to account for these differences.

Data Collection and Entry

Collect intake assessment data from clients	
Enter intake assessment data in HMIS	
Update HMIS to reflect changes in income, benefits, etc.	
Collect exit assessment data from clients (including exit destination)	
Enter exit assessment data in HMIS	
Make or change a bed/unit reservation for a client	
Merge duplicate clients across the HMIS	
Secure paper forms according to privacy and confidentiality standards	
Maintain workstation security	

HMIS Operations

Develop and deliver training for new end users	
Provide remedial or refresher training to end users	
Develop and deliver training for medium- to advanced-level users	
Maintain documentation of completed training requirements	
Authorize/provide HMIS access or licenses to new end users	
Remove HMIS access or licenses due to violation or end of employment at the HMIS-participating agency	
Review HMIS data standards updates for correctness and completeness	
Manage project setup tasks	
Provide troubleshooting/technical assistance via service desk activities	
Solicit feedback from HMIS stakeholders on HMIS policies and operations	
Provide communications about upcoming agency-specific HMIS changes	
Provide communications about CoC-wide or HUD-mandated HMIS changes	
Document workflow needs by program	
Implement program-level workflow, features, and functionality	
Monitor the HMIS vendor against the terms and conditions of the contract	
Update and revise the HMIS vendor contract	
Review HMIS software functionality updates for correctness and accuracy	
Test new features and functionality	

Policies and Procedures

Develop DQ plans, policies, and procedures including DQ benchmarks for timeliness, completeness, accuracy, and consistency	
Approve DQ plans, policies, and procedures including DQ benchmarks for timeliness, completeness, accuracy, and consistency	
Review DQ plans, policies, and procedures for appropriateness in relation to the CoC's needs	
Implement DQ plans, policies, and procedures	
Conduct monitoring and oversight of end users to ensure HMIS activities are implemented with fidelity to approved plans, policies, and procedures	
Develop program- and user-level forms and documents (such as HMIS end user agreement or client releases of information)	
Define roles and responsibilities of HMIS end users	
Define roles and responsibilities of the HMIS decision-making entity across the CoC (e.g., executive board, designated committee, or work group)	
Define roles and responsibilities of HMIS Lead	
Review and approve HMIS data requests for external research/evaluation projects	
Provide HMIS data to external researchers/evaluators	
Participate in the HMIS Work Group	
Participate in the HMIS Training Subcommittee	

Monitoring and Reporting

Monitor DQ for completeness (client and program)	
Monitor DQ for timeliness	
Monitor DQ for accuracy	
Monitor DQ for consistency	
Analyze project-level and system-level trends in DQ performance	
Running DQ/validation reports	
Correct low-quality data across the HMIS implementation	
Correct low-quality data at the program level	
Communicate low DQ performance to appropriate stakeholders (e.g., discussing improvement strategies with agencies or elevating issues up to DQ enforcement entity when necessary)	
Communicate high DQ performance to appropriate stakeholders (e.g., public recognition)	
Evaluate current DQ monitoring processes and identify new protocols for continuous improvement	
Evaluate current DQ incentives and enforcements and identify new resources for continuous improvement	
Review HUD reports prior to submission	
Submit HUD reports in Sage or HDX	
Manage program-level reporting requirements by service and/or funder	
Conduct Point-in-Time (PIT) Count reports as required by the CoC	
Provide Housing Inventory Count (HIC) reports to the CoC	
Develop and review data dashboards/visualizations, if applicable	

Appendix B. Sample Data Quality Plan

Introduction

The introduction should include an explanation of why the CoC has created a Data Quality Management Plan (DQMP)—not only why it matters at the broader systems level, but also why it matters locally, with any locally relevant reasons. This should set the tone for the overall framework surrounding HMIS data quality within the CoC.

This section should also include any stakeholders involved in the creation, oversight, monitoring, and enforcement of the DQMP.

Reference HUD TA Data Strategy throughout relevant sections.

Example:
The _____ Continuum of Care (CoC), the Homeless Management Information System (HMIS) Lead, and providers have created this Data Quality Management Plan (DQMP) to provide actionable, measurable steps to address data quality within the HMIS. Data quality within HMIS affects everything we do in our work to address and end homelessness, and its importance cannot be overstated.

While focusing on data quality for federally funded projects that enter data into HMIS is necessary to ensure accurate reporting for those grants, any project that enters data into HMIS contributes to the overall picture of homelessness within the CoC and, therefore, is expected to participate in this DQMP.

The reasons why data quality is important are many, including but not limited to:

- Requirements based on funding the CoC receives;
- Data quality, or lack thereof, can directly affect the funding opportunities for providers;
- Accurate reporting for federal, state, and local funding;
- The ability of the CoC, and providers within the CoC, to tell the story of homelessness as realistically and completely as possible; and
- The data entered into HMIS directly affects clients through the coordinated entry process and may determine which services they may or may not be eligible for.

The CoC will work in conjunction with the HMIS Lead to ensure all providers have access to the tools they need to ensure high data quality, including training, data quality reports, encouragements to maintain a high level of data quality, and enforcements for non-responsiveness to data quality concerns. While the HMIS Lead is responsible for a large part of the overall DQMP, the CoC will maintain a high level of involvement to ensure providers respond to data quality concerns and that the data quality within the HMIS is both acknowledged and addressed on an ongoing, iterative, continual basis and in an objective, data-driven manner.

The following addresses how the CoC will both encourage and enforce the DQMP, with transparency about how a provider's data quality can bring about both incentives and consequences. The DQMP is then broken out into the various components of data quality: completeness, timeliness, accuracy, consistency, and bed coverage. The sections will address

the baseline minimum requirements to maintain a sufficient level of data quality and, depending on the section, the baseline minimum requirement will be broken out by project type. The Data Quality Monitoring Visit Report and Improvement Plan is a tool that will be used for providers and end users consistently failing to maintain a baseline minimum requirement; specifics of how that will be determined and what the tool includes are described in that section.

The DQMP ends with an Appendix about the expectation of the HMIS Lead and the data quality baseline minimum requirements for provider and system setup and maintenance of the overall HMIS to ensure it runs effectively and efficiently. This section is used to assist the CoC in ensuring the HMIS Lead is maintaining a high level of system setup data quality to ensure accurate reporting on behalf of the CoC.

The DQMP is a living, evolving tool that will change as the community and its HMIS data needs.

Encouragements and Enforcements

This section should include the ways in which the CoC both encourages and enforces data quality, as laid out in the DQMP. The plan must be quantifiable and actionable, both when entities are excelling at addressing data quality and when they are failing to do so.

An explanation of how the DQMP will play into data-driven decision-making and/or the NOFA rank and review process would be good to include here.

Example:
The CoC works with the HMIS Lead to ensure providers have access to all the support and tools they need to ensure a high level of data quality within the HMIS. The CoC will monitor data quality in conjunction with the HMIS Lead, and the following encouragements and enforcements are in place to ensure providers understand the importance of data quality within HMIS.

Encouragements

- The CoC Board will make data quality a meeting agenda item at every Board meeting and will acknowledge providers meeting a high level of data quality in the meeting minutes which will be posted on the CoC's website.
- The CoC will acknowledge the work of providers meeting a high level of data quality every quarter during the CoC General Membership Meeting, via the CoC e-newsletter, or other public forums that acknowledge the work done to address data quality in HMIS.
- The CoC will use data quality in HMIS during the annual rank and review process for CoC dollars. In order to be eligible for CoC dollars, projects will need to maintain a baseline threshold data quality requirement and will be awarded additional points for going above and beyond the baseline. Guidance on specifics of this process will be released each year with the local CoC NOFA competition process.
- The CoC will work with state and local funders to also use data quality metrics when making funding allocation decisions to providers/projects. The CoC will encourage state and local funders to use the same process the CoC uses during the annual rank and review process for CoC dollars.
- The CoC will work with providers who do not currently use HMIS and talk through the reasons why they do not use HMIS. Depending on the reasons, the CoC will work with the providers to make HMIS a realistic option.

- If possible, the CoC will provide monetary incentives to providers maintaining a high level of data quality. Guidance on specific dollar amounts to be provided and how providers will qualify for those dollars (through the form of direct monetary assistance or subsidizing of HMIS costs incurred by the providers) will be supplied as available.

Enforcements
The CoC will work with the HMIS Lead to monitor data quality at the user, project, agency, and system level. Enforcements will depend on where data quality issues lie and could include the following:

- Locking specific providers or users out of HMIS until they receive remedial or additional training from the HMIS Lead and show that data quality is a focus.
- Removing the ability of a given user to access and enter data into HMIS if data quality becomes a consistent issue that is not acknowledged or addressed.
- Restricting additional funding, or withholding funding, from projects until data quality meets, at a minimum, the baseline threshold for the given project type.
- Preventing agencies from applying for new or additional dollars during RFP processes.

Data Quality Benchmarks

Data Completeness

This section should include a brief explanation of Data Completeness and why it is important. It should then describe how the CoC will monitor Data Completeness and provide baseline requirements for Data Completeness by project type.

Example:
Data Completeness looks at how much of the data fields for any given client, project enrollment, provider, agency, or system are filled in or answered. The definition used in the CoC Data Quality Brief is: "The degree to which all required data is known and documented." Data Completeness looks at missing or null values; "data not collected" values; and, depending on the data field, "client doesn't know," "client refused," and/or "other" values.

Data Completeness is usually one of the first pieces of overall data quality that is addressed because it is the simplest to measure—it is easy to report on what is or is not in HMIS based on what is required to be in HMIS for any given project type.

The HMIS Lead will run Data Completeness reports on a bimonthly basis and send them to providers. Those providers who fall below the baseline requirement for Data Completeness for their project type will be asked to clean up their data within a certain timeframe. For consistent issues with Data Completeness, providers may be directed to create a Data Quality Improvement Plan (DQIP).

The following are suggested baseline requirements by project type for data completeness. Note that these are used as examples and should be customized for each CoC.

Street Outreach

- 90 percent of required data elements (only applies after the client has a Date of Engagement).

Emergency Shelter

- 95 percent of required data elements.

Services Only (Excludes Coordinated Entry).

- 90 percent of required data elements.

Transitional Housing

- 98 percent of required data elements.

Rapid Rehousing

- 100 percent of required data elements.

Permanent Supportive Housing

- 100 percent of required data elements.

Coordinated Entry

- 100 percent of required data elements (only applies after the client reaches a specific point in the coordinated entry process).

Homelessness Prevention

- 90 percent of required data elements.

Data Timeliness

This section should include a brief explanation of Data Timeliness and why it is important. It should then describe how the CoC will monitor Data Timeliness and provide baseline requirements for Data Timeliness by project type.

Example:
Entering data into HMIS in a timely manner is necessary to ensure that clients receive the services they need quickly and efficiently. Additionally, timely data entry ensures that regular, accurate reporting can be done through HMIS. Users who enter data into HMIS in a timely manner are less likely to make data entry errors and are more likely to focus on overall data quality. Per a July 2005 publication, HUD recommends that projects enter data into HMIS, at most, within 48 hours of collecting the information from the client.

The HMIS Lead will run Data Timeliness reports on a bimonthly basis and send them to providers. Those providers who fall below the baseline requirement for Data Timeliness for their project type will be asked to work with the HMIS Lead to make sure that they can meet the Data Timeliness standard moving forward. For consistent issues with Data Timeliness, providers may be directed to create a DQIP.

The following are suggested baseline requirements by project type for data completeness. Note that these are used as examples and should be customized for each CoC.

Street Outreach

- Live time or within 24 hours of contact with the client.

Emergency Shelter

- Live time or within 24 hours of contact with the client.

Services Only (Excludes Coordinated Entry)

- Live time or within 48 hours of contact with the client.

Transitional Housing

- Live time or within 48 hours of contact with the client.

Rapid Rehousing

- Live time or within 48 hours of contact with the client.

Permanent Supportive Housing

- Live time or within 48 hours of contact with the client.

Coordinated Entry

- Live time or within 24 hours of contact with the client.

Homelessness Prevention

- Live time or within 48 hours of contact with the client.

Data Accuracy

This section should address Data Accuracy and why it is important. This section should also address how Data Accuracy will be reviewed.

Example:
Data Accuracy is not as easy to manage or monitor and requires specific reports that look at congruency between and among responses to data elements within the system, as well as checks between what the client has told an intake worker and what data is entered into HMIS.

The HMIS Lead will run Data Accuracy reports on a bimonthly basis and send them to providers. The goal for all project types and all data entered into HMIS is 100 percent Data Accuracy. Those providers who show issues with Data Accuracy will be asked to clean up their data within a certain timeframe. For consistent issues with Data Accuracy, providers may be directed to create a DQIP.

Data quality reports will look at Data Accuracy between and among responses to data elements including:

- Date of birth and project start date (ensure the two are not the same, especially for heads of households);
- 3.917 data elements (ensure that the responses to residence prior to project entry, length of stay in prior living situation, approximate date homelessness started, number of times experiencing homelessness in the last three years, and number of months experiencing homelessness in the last three years do not conflict with each other);
- Disabling condition yes/no and types of disabling conditions (ensure these do not conflict);
- Health insurance yes/no and sources of insurance (ensure these do not conflict);
- Income yes/no and sources of income (ensure these do not conflict);
- Non-Cash benefits yes/no and sources of non-cash benefits (ensure these do not conflict);
- Domestic violence victim/survivor and subsequent data elements (if the first answer is no, are the other questions answered, etc.);
- Relationship to head of household (are there multiple heads of household or no head of household?);
- Client location (is the client location defined as a community outside of the applicable CoC?);
- Veteran (is a minor-aged individual defined as a veteran?); and
- A given project only includes clients of a specific gender (if that project is not dedicated to only serving a specific gender).

Additionally, the Longitudinal System Analysis Guide (see Appendix A in the LSA Guide) looks at specific data quality issues in relation to that systemwide submission to HUD on an annual basis. These specific data quality and data accuracy pieces should be addressed in the reports run by the HMIS Lead on an ongoing basis.

The CoC, in partnership with the HMIS Lead, will also work with providers to review, at regular intervals, the data collected directly from clients (either on paper forms or by being present during intakes with clients) and the data entered into HMIS to ensure that the data entered into HMIS matches the client's reality. This will be done, at a minimum, during annual formal onsite monitoring visits, and will also occur at other points throughout the year.

User Access and Consistency

This section should address users and their access to HMIS, as well as an expectation that users are accessing the HMIS on a regular basis to complete data entry.

Example:
Users with access to HMIS should be entering data on a regular and consistent basis, not only to prevent a backlog of data entry, but also to ensure users maintain familiarity with the HMIS and the workflows for which they are responsible.

The HMIS Lead will monitor user login and access to HMIS bimonthly by running a report that shows when users last logged into the system. If users have not logged into HMIS within the last 30 days of the report run date, the HMIS Lead will contact the user and ask if they still need access to the system. If the user responds that they do still need access, the HMIS Lead will ensure that the user has maintained sufficient data quality and does not need remedial training. If the user does not have a high level of data quality, the HMIS Lead will provide remedial training for the user.

If the user is non-responsive to any inquiries about their access to HMIS, the HMIS Lead will contact the user's direct supervisor and include the CoC Lead. If the HMIS Lead is informed that the user is no longer an active participant in HMIS data entry, the user's license will be removed from HMIS. If the direct supervisor of the user informs the HMIS Lead that the user is still an active user, the user will be required to connect directly with the HMIS Lead to complete any necessary remedial trainings to maintain a high level of data quality in the system.

Should the HMIS not hear from either the user or the user's direct supervisor, the user license will be removed from the system.

HMIS Bed Coverage

This section should address HMIS Bed Coverage and why it is important. It should talk through how the CoC and HMIS Lead can address bed coverage and what to do when new projects come online.

Example:
The importance of a high percentage of HMIS Bed Coverage for all project types is an emphasis of the HUD TA Data Strategy. Without a high percentage of HMIS Bed Coverage within a CoC, the data within HMIS is never holistic and the story told with HMIS data about homelessness

within the CoC is never fully accurate. A lack of high HMIS Bed Coverage prevents CoCs from truly understanding how both their system, and the clients served within their system, are functioning.

While extrapolation techniques can work for some research and reporting purposes, the extrapolation will only be as accurate as the similarities between any given projects, processes, and clients served by the projects. Therefore, the goal for HMIS Bed Coverage for all project types is 100 percent.

The HMIS Lead, in conjunction with the CoC Lead, will ensure that Bed Coverage is as close to 100 percent as is possible for all project types. This includes a review of the CoC's most recent Housing Inventory Chart (HIC) to know which providers participated in the most recent HIC but are not entering data into HMIS.

Ensuring a CoC's HMIS Bed Coverage reaches 100 percent (and stays at 100 percent) also requires implementing a process to ensure that any new projects that become available to serve clients at risk of or experiencing homelessness are communicated to the CoC so that HMIS data entry can be encouraged and/or required for the new project.

Below are things to do to ensure HMIS Bed Coverage reaches or maintains 100 percent:

- Review the HIC on a quarterly or semi-annual basis to ensure all projects (with the exception of victim services providers) are entering data into HMIS;
- If projects are included on the most recent HIC that do not enter data into HMIS, the CoC and HMIS Lead should find out why this is the case and target any solutions to the specific reason; and
- For any new project that becomes available within the CoC that will serve clients at risk of or experiencing homelessness, the CoC should be made aware and work with the HMIS Lead to ensure the new project is encouraged and/or required to enter data into HMIS.

Data Quality Monitoring Visit Report and Improvement Plan

This section should include the Data Quality Monitoring Visit Report and Improvement Plan and when and why it will be used. Define what measures will be used to determine whether an entity needs to be put on an Improvement Plan. List the steps included in the Improvement Plan, as well as the entities involved in monitoring, encouraging, and enforcing the plan. Mention any consequences to an entity that does not follow through with the Improvement Plan.

Example:
The Data Quality Monitoring Visit Report will be used annually during agency monitoring to ensure that all HMIS participating agencies are in compliance with HMIS policies and procedures, agency agreements, user agreements, and any other documents governing the use of HMIS. If deficiencies are identified in any area during the monitoring visit, the Improvement Plan will be used to assist the agency in addressing issues using concrete, time-bound action steps.

If, at any time, the HMIS Lead has documented one or more ongoing issues related to data quality with a given agency (ongoing is defined as the issue lasting longer than a specific period of time as defined by the CoC and HMIS Lead consecutively without resolution), an

Improvement Plan will be implemented with the agency, with or without an accompanying monitoring visit.

Appendix

This section should address the provider and system setup data quality that is the responsibility of the HMIS Lead. Expectations and reasons why this is important should be addressed. These include:

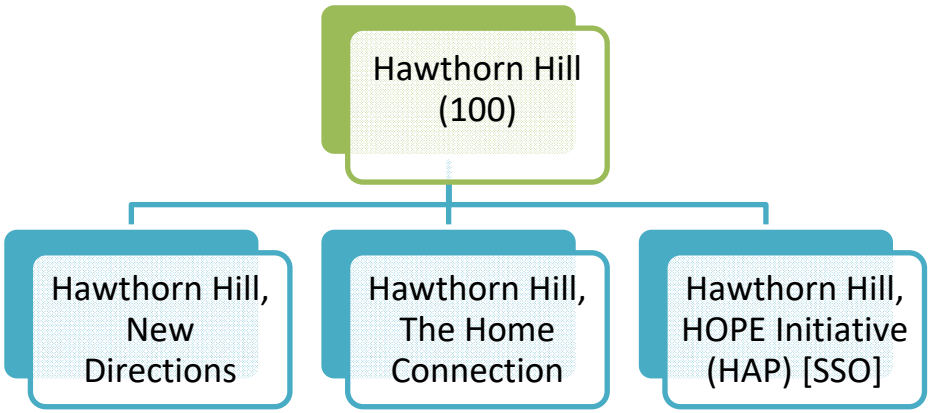
- HMIS Lead/back end data quality
    - Naming Conventions
    - Project Descriptor Data Elements
    - Visibility
- Document processes

Example:
While HMIS data quality is mainly focused on the users, projects, providers, agencies, and CoCs entering data into the system, ensuring that the "behind the scenes" or provider and system setup side of HMIS is completed correctly is vital to ensure accurate reporting and functionality.

Ensuring the provider and system setup of HMIS is done correctly is the responsibility of the HMIS Lead, with the support of the CoC. Reviewing the provider and system setup of HMIS should be an ongoing process for the HMIS Lead and the processes taken to ensure provider and system setup should be documented and easily replicable based on that documentation.

Naming Conventions
Projects in HMIS should have a consistent naming convention that includes, at a minimum, the Provider Name, Project Type, and Provider ID/Number. It may benefit the HMIS Lead to also include grant types (CoC, ESG, SSVF, RHY, etc.) in the overall naming convention of projects to easily locate projects funded with specific funding streams.

If the HMIS supports different "levels" for projects, the HMIS Lead ensures that the "levels" are consistent across the system. For example, if the HMIS supports a "provider tree," the HMIS Lead ensures that the provider at the top of the "provider tree" is the Provider Name and that any projects operated by that provider are under that specific "provider tree" in the HMIS (example below).



The HMIS Lead will document the Naming Convention used and create a "provider tree" that mimics what is in HMIS for easy reference.

Project Descriptor Data Elements (PDDEs)
The Project Descriptor Data Elements (PDDEs) are the "back end" data elements required to be completed by the HMIS Lead to ensure projects in the system are typified correctly.

- Project type is defined to ensure projects are pulled correctly into reports;
- Bed and unit inventory is up-to-date and is available for the Point-in-Time (PIT) Count and Longitudinal System Analysis (LSA) reports;
- Specific workflow is defined by project type;
- Specific grants and/or federal partner funding sources are identified;
- Target populations are listed; and
- The CoC(s) in which the provider operates is identified.

The HMIS Lead will document how this is done in the system, how often they review and update the PDDEs, and any changes that have been made over time to the process.

Visibility
Ensuring the visibility in HMIS is set up correctly so that users can see what they are supposed to see and, alternatively, not see what they are not supposed to see, is critical. Visibility processes are different for every HMIS, and it is imperative that the HMIS Lead has a solid understanding of the visibility setup in the given system and how visibility is affected by project and user setup.

The HMIS Lead will document how the visibility is set up in the system and any changes made to it over time.

Appendix C. Sample HMIS-Participating Organization Agreement

Any organization participating in the CoC's HMIS is expected to adhere to the data quality standards as laid out in the Data Quality Plan. This includes baseline requirements for the following pieces of data quality:

- **Data Completeness** (how many of the required data elements in HMIS are completed for any given client).
- **Data Timeliness** (how long it takes for the data to be entered into HMIS once it is collected from the client).
- **Data Accuracy** (how much the data entered into HMIS reflects the client's or project's reality).
- **Data Consistency** (how equally the data elements are explained, interpreted, and entered into HMIS).

This organization is entering data into HMIS for the following project(s): **(list out the project names and types)**

_____

_____

_____

The above project(s) are required to abide by the following baseline requirements, as laid out in the Data Quality Management Plan: **(list out the specific baseline requirements as laid out in the DQMP for completeness, timeliness, and accuracy)**

Data Completeness: _____

Data Timeliness: _____

Data Accuracy: _____

Should this organization fail to uphold the data quality standards, this organization shall implement a Data Quality Improvement Plan, as discussed and defined in the Data Quality Plan. Failure to comply with a created Data Quality Improvement Plan could result in the following: **(list out specific results of failing to comply with a Data Quality Improvement Plan)**

- Loss of user licenses
- Loss of access to HMIS as an organization
- Decreased funding

The responsibilities of this organization related to this Agreement include the following:

- Maintain a high level of HMIS data quality, using the baseline requirements as laid out in the Data Quality Plan as the threshold for meeting the expectation;
- Seek assistance from the HMIS Lead and/or CoC when there are questions about HMIS and HMIS data quality;
- Be responsive to questions and requests from both the HMIS Lead and CoC related to HMIS data quality; and
- Inform the HMIS Lead and the CoC when changes occur within this organization that specifically relate to HMIS and/or HMIS data quality, including but not limited to:
    - Inform the HMIS Lead when an existing HMIS user no longer needs access to the system, within 24 hours of no longer needing access.
    - Inform the HMIS Lead when a new HMIS user needs to receive training on HMIS data entry.
    - Inform the HMIS Lead and CoC when an existing HMIS project ends, at least 21 days prior to the project's termination.
    - Inform the HMIS Lead and CoC when a new HMIS project needs to be created, at least 21 days prior to the project's beginning.

The responsibilities of the HMIS Lead related to this Agreement include the following:

- Provide sufficient training, resources, materials, and follow-up to this organization and its HMIS users to ensure a high level of understanding related to entering data into HMIS;
- Respond to this organization's questions and concerns related to HMIS and HMIS data quality;
- Provide tools for this organization to monitor its own data quality in HMIS; and
- Ensure this organization and its HMIS users understand the data entry requirements related to the specific projects this organization enters into HMIS.

The responsibilities of the CoC related to this Agreement include the following:

- In conjunction with the HMIS Lead, ensure this organization understands the Data Quality Plan and its importance;
- Provide a clear and transparent process, as addressed in the Encouragements and Enforcements section of the Data Quality Plan, for providing this organization with encouragements and enforcements as related to HMIS data quality;
- Ensure the HMIS Lead and this organization have sufficient resources to be as proactive in HMIS data quality monitoring as possible; and
- In conjunction with the HMIS Lead, determine the consequences for this organization should they fail to abide by this Agreement or a Data Quality Improvement Plan.

This Agreement is effective from the date of signature and will be in effect until this Agreement is updated or the organization is no longer participating in HMIS.

HMIS Participating Organization & Signature	Date
HMIS Lead Organization & Signature	Date
CoC Organization & Signature	Date

Appendix D. HMIS Data Quality Monitoring Visit Report and Improvement Plan

Data Quality Monitoring Visit Report

Date of Monitoring Visit: _____

Person Conducting Monitoring Visit: _____

Name of Organization: _____

Organization Contact and Information: _____

Name of Project and Type of Project Monitored: _____

Organization Staff Present During Monitoring:

Each baseline and expectation met below accounts for (____) points for a total of (____) allowable points.
Include the specific baseline requirements for the project type to be monitored:

Data Completeness baseline: _____ Baseline Met? _____ Yes _____ No

Data Timeliness baseline: _____ Baseline Met? _____ Yes _____ No

Data Accuracy baseline: _____ Baseline Met? _____ Yes _____ No

Data Consistency expectation met? _____ Yes _____ No

Coverage & Utilization expectation met? _____ Yes _____ No _____ Not applicable

Total Score: _____

Each item in the "observed" column accounts for (___) points for a total of (_____) allowable points. The combined total of the total score in the section above and the total score in the section below results in the specific project's monitoring visit score. Projects with scores between (____) – (____) will be determined as "exceeding expectations."

Projects with scores between (____) – (____) will be determined as "meeting expectations."

Projects with scores between (____) – (____) will be determined as "below expectations."

Projects with scores between (____) – (____) will be determined as "severely at-risk."

For those in the "outcome" column defined as "Action Needed," the "Notes" section must include action steps with specific timelines.

Requirement	Observed		Outcome	Notes
Data Collection & Quality	_____	The project has not required the use of a Data Quality Improvement Plan (DQIP) to address data quality issues since the last monitoring visit.	____ Action Needed ____ In Compliance	
	_____	The organization documents the homeless status of clients served, as well as any other eligibility criteria for the project.		
	_____	Intake workers and HMIS users understand the required data elements and how to present them to clients in a way to get accurate information.		
	_____	The organization's paper intake forms, if applicable, include all data elements required to be entered into HMIS.		
	_____	Random selection of client files show the complete data collection process and match data entry in HMIS.		

Upon completion of monitoring visit:

DQIP needed? _____ Yes _____ No

If yes, has the plan been created? _____ Yes _____ No

Notes

_____ _____

Person completing the monitoring visit signature Date

_____ _____

Monitored organization staff member signature Date

Data Quality Improvement Plan

Date of DQIP Implementation: _____

Name of Organization: _____

Organization Contact and Information: _____

Name of Project(s) Included in DQIP

Organization Staff Responsible for DQIP:

_____	_____
Staff Person	Role
_____	_____
Staff Person	Role
_____	_____
Staff Person	Role

HMIS Lead Staff Responsible for DQIP:

_____	_____
Staff Person	Role
_____	_____
Staff Person	Role

CoC Staff Responsible for DQIP:

_____	_____
Staff Person	Role
_____	_____
Staff Person	Role

Issue	Baseline Not Currently Being Met	How to Address	How Often and Who is Responsible	Date Completed
[Example] Destination data completeness rate an issue for three consecutive reporting periods.	Destination data completeness less than 95 percent (includes "no exit interview completed" responses).	In-person meeting with agency, HMIS Lead, and CoC to discuss what is happening "in real life" and "real world" implications of poor destination data completeness rates.	Initially—Ongoing, if needed (Agency, HMIS Lead, CoC)	
		Review paper intake/exit assessments to ensure necessary data elements are included on the forms.	Initially (Agency, with input from HMIS Lead as needed)	
		Provide refresher training to HMIS users to ensure data entry for destination data is completed accurately.	Ongoing, if needed (HMIS Lead)	
		Run data completeness report every two weeks.	Ongoing (Agency and HMIS Lead)	
		Increase in destination data completeness for at least three consecutive months.	Ongoing (Agency and HMIS Lead)	

Additional Narrative:

Example: If the organization does not remain communicative and interactive with the HMIS Lead to address the issue by following through with the above steps, the CoC will consider this DQIP in default and will use incentives and enforcements available, including a loss of supports and dollars currently provided to the organization.

Acknowledgment and Acceptance of Data Quality Improvement Plan

_____ _____

Program Manager/Organization Executive Director HMIS Lead Manager/Director

_____ _____

Date Date

_____

CoC Manager/Director

_____

Date

Appendix E. HMIS Data Quality Performance Monitoring and Improvement Strategies

Part I. User/Front-End Data Quality

Data Completeness

Why It Matters	How to Address	How Often
For accurate reporting and to analyze trends in homelessness data over time, data needs to be complete.	Data Completeness Reports with deadlines for fixing errors.	Data Completeness Reports provided to individual users/agencies monthly/every other month.
Attempt to have as few null, missing, data not collected, client refused, and client doesn't know options as possible.	Report Cards that may be publicly available.	Report Cards publicly available quarterly (by provider or project type).
Data completeness is the easiest thing to focus on when discussing overall data quality because it is easy to tell if a client's HMIS record is complete or not.	Set a baseline for data completeness for each project type in Policies & Procedures (P&P).	Review P&P annually and review data completeness baselines for each project type.
Data collection and data entry is not a one-time event and agencies should attempt to collect data for clients served over time as working relationships are developed and trust is built.	Provide one-on-one/remedial training for users.	HMIS Lead offers one-on-one/remedial training for users on an ad-hoc/regular basis.

Data Timeliness

Why It Matters	How to Address	How Often
To benefit clients most immediately, data needs to be entered into HMIS in a timely manner (most directly affects clients as it relates to coordinated entry).	• Data Quality Report that shows the length of time between the date the information was gathered from the client (Project Start or other date) and the date the data was entered into HMIS. • Ensure that agencies and projects entering data into HMIS have sufficient users/staff support to maintain a data timeliness standard. • Showing, in real life, how lack of data timeliness directly affects clients (for example, a client not appearing on the prioritization list for coordinated entry in time for a case conferencing meeting because the data was not entered into HMIS). • Agencies communicate with HMIS Lead about any other databases into which they have to enter data and take steps to avoid dual data entry, if possible.	• Data Quality Reports provided to individual users/agencies monthly/every other month. • HMIS Lead talks with agencies/providers when new projects come online or agencies expand what activities they are doing in HMIS to ensure that the user base is sufficient to maintain a data timeliness baseline (proactive, not reactive—agencies talk with HMIS Lead before these changes/expansions occur, not during or after).
Data also needs to be entered into HMIS in a timely manner so that reports and data visualizations are accurate and include all clients served and all data elements collected.	A baseline should be set in the P&P—the baseline may differ by project types, with some requiring more stringent data timeliness standards than others.	Review P&P annually and review data timeliness baselines for each project type.

Data Congruency

Why It Matters	How to Address	How Often

• There is incongruency when a client is marked as not having income overall, but then there is a specific income source recorded as a "yes" with a monthly dollar amount.
• This issue occurs most often when recording responses to the "HUD Verification" questions in HMIS:
  ○ Health Insurance Coverage
  ○ Disabling Conditions
  ○ Monthly Income
  ○ Non-Cash Benefits
• Data incongruency is an issue with responses to the 3.917 questions not being consistent with each other.
	• HUD's Data Quality Framework as well as other reports that look at answers that do not match each other in HMIS.
	• A report that looks specifically at the 3.917 questions (Residence Prior to Project Entry, Length of Time in Previous Place, Approximate Date Homelessness Started, # of Times Experiencing Homelessness in Last 3 Years, and # of Months Experiencing Homelessness in Last 3 Years) and whether any of the answers in that data set conflict with one another.
	• Education and an understanding of how the 3.917 answers can significantly skew the System Performance Measures.
	• HMIS Lead provides ongoing trainings/ad-hoc trainings about the 3.917 questions and how to answer them, as well as the HUD Verification questions and how to update them when changes occur in the client's situation.
		• Data Quality Framework and/or other reports provided to users/agencies monthly/every other month.
		• Review of System Performance Measures on a regular basis throughout the year to ensure the 3.917 answers are not skewing the data in any specific obvious way.
		• HMIS Lead offers one-on-one/remedial training for users on an ad-hoc/regular basis.
		• HMIS Lead offers ongoing education on the effect specific data elements have on the System Performance Measures.

Data Accuracy

Why It Matters	How to Address	How Often

• Data completeness, in and of itself, does not speak to the accuracy of the data entered into HMIS and whether it is a true reflection of the client's situation.
• When the data entered into HMIS is not a true reflection of the client's reality, this causes accuracy issues.
• Some of these can be difficult to determine because HMIS does not know what information that has not been entered. A few include:
  ○ Multiple open entries into the same project type for the same client
  ○ No defined Head of Household
  ○ Multiple defined Heads of Household
	• Report that looks for multiple Heads of Household and no Head of Household issues.
	• Report that looks at multiple open entries into the same project type for clients/households.
	• Regular communication with users/agencies to ensure that the data in HMIS is a true reflection of the projects' reality (does overall client count make sense, do the demographics served make sense, services provided, dollars spent, etc.).
		• Reports that look at data accuracy provided to users/agencies every month/every other month
		• Discussions between users/agencies and the HMIS Lead occur as needed. Decide if this is at least annually during HMIS Monitoring.

Other indicators:

Timely Entries into Project

How to Address	How Often	Why It Matters
• The sooner data is entered into HMIS, the sooner it is available for reporting purposes, prioritization purposes, data analysis purposes, making data-informed decisions, and more. • Entering data in a timely manner also ensures that data is not lost or forgotten.	• Same type of tools for the overall Data Timeliness piece, but focused on the Project Start Date for clients/households. • Report of project/bed/unit utilization could also be helpful. • A baseline should be set in the P&P—the baseline may differ by project types, with some requiring more stringent data timeliness standards than others. • For project types with a heavy lift for the number of clients seen and entered into the project (such as mass emergency shelters and coordinated entry), ensure sufficient staff are available to enter data into HMIS to maintain data timeliness baseline.	• Data timeliness reports provided to users/agencies monthly/every other month. • Bed utilization provided to users/agencies every other month/quarterly. • Review HMIS P&Ps annually to edit/update the data timeliness baseline by project type as needed. • Regular communication between users/agencies and HMIS Lead to ensure that the number of HMIS users is sufficient to maintain sufficient data timeliness.

Timely Exits from Project

How to Address	How Often	Why It Matters
• Clients who are not exited from projects in a timely manner drive up the average length of time a client is served in the project. • Can also cause overlapping open entries into the same project type for a client who transitions from, for example, one shelter to another if the client was not provided a timely exit in HMIS from the first shelter. • Can cause the project to look like it is highly over-utilized.	• Same type of tools for the overall Data Timeliness piece, but focused on the Project Start Date for clients/households. • Report of project/bed/unit utilization could also be helpful. • Report of clients who have been in a project type longer than normally anticipated (for example, emergency shelter longer than 90 days, transitional housing longer than two years, etc.)—a "No Exits" report. • A baseline should be set in the P&P—the baseline may differ by project types, with some requiring more stringent data timeliness standards than others. • For project types with a heavy lift for the number of clients seen and exited out of the project (such as mass emergency shelters and coordinated entry), ensure sufficient staff are available to enter data into HMIS to maintain data timeliness baseline.	• Data timeliness reports provided to users/agencies monthly/every other month. • Bed utilization provided to users/agencies every other month/quarterly. • "No Exits" report provided to users/agencies quarterly to verify the accuracy of clients not exited from project/actively still served. • Review HMIS P&Ps annually to edit/update the data timeliness baseline by project type, as needed. • Regular communication between users/agencies and HMIS Lead to ensure that the number of HMIS users is sufficient to maintain sufficient data timeliness.

All Clients Served are Entered

How to Address	How Often	Why It Matters
• Ensuring that all clients that are served in a project are entered into the project in HMIS is important but can be difficult to report on. • If the project is a shelter or housing project, the number of clients served can be compared to the number of beds/units available in the project to look for under-utilization. • Ensure accurate entry of household members who enter the project after the Head of Household has been entered into the project.	• Report of project/bed/unit utilization for project types. • Comparison of the number of clients entered into HMIS vs. what the agency has stated is their target number of clients served for any given period of time. • Report of "orphaned" children for households who have entered projects at different times.	• Reports on utilization provided to users/agencies every month/every other month. • Review of clients entered into HMIS vs. what the grant states about the number of clients the agency will serve with the given project. Decide if this should take place quarterly. • Report of households who have entered into projects at varying times to users every month/every other month (depending on how often this occurs).

Part II. HMIS Setup Data Quality

While HMIS data quality is mainly focused on the users, projects, providers, agencies, and CoCs entering data into the system, ensuring that the "behind the scenes" or provider and system setup side of HMIS is completed correctly is vital to ensure accurate reporting and functionality. As an example, HMIS Leads and system administrators should ensure consistency between the CoC's Housing Inventory Count (HIC) Report and the projects that are reported in the Longitudinal System Analysis report, including verification of all homeless projects in the CoC regardless of HMIS participation. Ensuring the provider and system setup of HMIS is done correctly is the responsibility of the HMIS Lead with the support of the CoC. Reviewing the provider and system setup of HMIS should be an ongoing process for the HMIS Lead and the processes taken to ensure provider and system setup should be documented and easily replicable based on that documentation. The HMIS setup serves as the backbone for the entire system's accuracy and data quality.

Provider Naming Convention

While the specific convention any given HMIS Lead uses will be different, consistency within the way projects are named will assist in a streamlined user experience and organize the system.

Why It Matters	How to Address	How Often
Ensuring the naming convention in HMIS makes sense and follows a sense of order is important not only for internal use, but also because if the HMIS Lead role ever shifts to another entity, the new entity will need to know what name is attached to what project in the system.	Ensure that the HMIS Lead has a consistent naming convention for the system that is documented and easily understood.	This should be reviewed at least annually, if not more often.
Naming conventions in HMIS assist in system organization both on the user side and the setup side and helps users know which project is which when they are entering data.	Use reports from HMIS to see what the provider names are currently; if there is inconsistency among them, fix it.	When new providers/projects come online, ensure consistency in their naming in HMIS.

Project Descriptor Data Elements (PDDEs)

The Project Descriptor Data Elements are vital in ensuring accurate reporting. HUD's Project Setup Tool on how to build projects in HMIS correctly are great resources for HMIS Leads.

Why It Matters	How to Address	How Often
The PDDEs in HMIS are vital to ensuring accurate reporting as they include project type, grants received, CoC code, bed/unit inventory, etc.	Use reports from HMIS to ensure providers have the accurate PDDEs associated with them.	This should be reviewed at least annually, if not more often.
The PDDEs also increase the efficiency and accuracy of reporting for HIC, LSA, SPMs, and other federally required reports.	When new providers/projects come online, work with organizations to ensure there is sufficient information provided to include accurate PDDEs.	The HUD HMIS Data Standards also address PDDEs extremely thoroughly and any changes will be reflected in the most recent versions.

All Necessary Data Elements Available

Each HMIS software functions slightly differently, but all of them allow for the HMIS Lead to ensure that the data elements needed for each project are available to that project to complete.

Why It Matters	How to Address	How Often
The HMIS Lead must ensure that all required data elements, by project type and funding stream, are available to all projects that need them. Any locally required data elements also must be available to all projects that need them.	Review all assessments in HMIS—availability to providers, data elements included, and compare to HUD HMIS Data Standards dictionaries.	Any time new data standards are released, assessments should be reviewed for accuracy.
This is vital for accurate reporting, data completeness, maintaining HMIS to keep in line with HUD and federal partner standards, etc.	Use reports from HMIS that allow for viewing which data elements are included in which assessments and which projects have access to those assessments.	When new providers/projects come online, ensure appropriate access to all necessary data elements.

Visibility

Each HMIS software functions differently and HMIS Leads will need to understand how visibility works in the specific system to ensure that the visibility of client records in HMIS aligns with the CoC's privacy policy.

Why It Matters	How to Address	How Often
Visibility of providers, data elements, and client records is necessary to ensure a client's right to privacy is protected and that the data is shared in HMIS when allowed.	Visibility can be difficult to report on and may need to be reviewed manually, depending on the HMIS software used. • Review the default visibility settings of providers. • Review the default visibility of specific data elements and client records. • Review visibility groups to ensure all projects signed on to an Interagency Data Sharing Agreement are included in the group.	Visibility should be reviewed at least every six months and every time a major change occurs at any level.
Users must have access to the correct project types to enter data into HMIS for clients they serve. They must also have access to the appropriate data elements for the various project types in HMIS to ensure accurate and complete data entry for clients they serve.	Communication between HMIS Lead and users/organizations to ensure that the HMIS Lead knows what users need access to in HMIS, as well as how organizations would like their project visibility set up.	Ensure the documentation surrounding privacy and sharing is consistent with itself, including the client-facing ROI, HMIS Consumer Notice, privacy policy, HMIS P&Ps, etc.—these documents should always be reviewed in conjunction with each other and no less than annually.

Appropriate Workflows

Each HMIS software functions differently and HMIS Leads must understand the specific system to ensure the most efficient and effective workflow for any given project.

Why It Matters	How to Address	How Often
Ensure appropriate workflows for users for project types using the easiest/least cumbersome data entry process that allows for the highest data quality. HMIS data entry should not monopolize a user's time, as a person entering data into HMIS is usually juggling many other required tasks, including direct client care.	Ensure the HMIS Lead knows the workflows available for any given project type and weighs all pros and cons of any given workflow.	Communication between the users and HMIS Lead should occur on a regular/ongoing basis to ensure that the workflows set up in HMIS are not burdensome or overly time-consuming for users.
The more burdensome HMIS data entry is to users, the less likely it is to get high-quality data in the system.	Provide sufficient training materials in different venues—in-person trainings, webinars, visual guides, videos, etc.—to ensure users who learn through different ways have access to sufficient resources. Provide ongoing trainings/ad-hoc trainings to ensure users maintain high data quality.	HMIS Lead should be informed of any issues with the workflow as soon as it is discovered by users.

Documenting Changes Made in HMIS

Ensuring there is a "trail" for the changes made in HMIS over time is important so that all involved entities can ask and then know when and why something changed.

Why It Matters	How to Address	How Often
Documenting changes made to the setup of HMIS is important to maintain internal consistency. It is also important to have a history of what has been done to HMIS over time in the event that the HMIS Lead role shifts from one entity to another.	This could be done in different ways, including: • Reports from HMIS itself • An internally shared google document or excel spreadsheet • A PDF that is updated and made available publicly on a regular basis	Documentation of changes made in HMIS should occur any time a change is made. Sharing of that documentation can occur as the community sees fit.