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# HMIS Data Quality & Monitoring Plan

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## **KnoxHMIS Project**

### **Data Quality and Monitoring Plan**

The Knoxville-Knox County Homeless Management Information System (KnoxHMIS) is a project funded by the U.S. Department of Housing and Urban Development (HUD). The KnoxHMIS Project is designated by the Knoxville-Knox County Continuum of Care (CoC) to serve as the Lead HMIS for the Knoxville-Knox County Geographic area. This document describes the KnoxHMIS data quality plan for Knoxville-Knox County Continuum of Care (CoC), TN\_502. The document includes data quality plan and protocols for ongoing data quality monitoring that meets requirements set forth by the Department of Housing and Urban Development (HUD). It is developed by the HMIS Data Quality Committee for the Homeless of Knoxville-Knox County (local CoC / KnoxHMIS), in coordination with the HMIS participating agencies and community service providers. This HMIS Data Quality Plan is to be updated annually, considering the latest HMIS data standards and locally developed performance plans.

#### **Data Quality**

HMIS data quality refers to the extent that data recorded in an HMIS accurately and reflects the same information in the real world. However, to meet the HMIS goal of presenting accurate and consistent information on homelessness, it is critical that an HMIS have the best possible representation of reality as it relates to homeless people and the projects that serve them. Specifically, it is our goal to record the most accurate, consistent, and timely information in order to draw reasonable conclusions about the extent of homelessness and the impact of homeless services. In 2004, HUD published HMIS Data and Technical Standards in the Federal Register. The Standards defined the requirements for data collection, privacy safeguards, and security controls for all local HMIS. In March 2010, HUD published changes in the HMIS Data Standards Revised Notice incorporating additional data collection requirements for the Homelessness Prevention and Rapid Re-Housing Project (HPRP) funded under the American Recovery and Reinvestment Act (ARRA). In response communities must establish:

#### **A Data Quality Plan:**

A data quality plan is a community-level document that facilitates the ability of the CoC to achieve statistically valid and reliable data. A data quality plan is generally developed by the HMIS Lead Agency with input from community stakeholders and is formally adopted by the CoC. In short, a data quality plan sets expectations for both the community and the end users to capture reliable and valid data on persons accessing the homeless assistance system.

#### **A Data Quality Monitoring Plan:**

A data quality monitoring plan is a set of procedures that outlines a regular, on-going process for analyzing and reporting on the reliability and validity of the data entered into the HMIS at both the project and aggregate system levels. A data quality monitoring plan is the primary tool for tracking and generating information necessary to identify areas for data quality improvement.

Assessing the effectiveness of the current homeless service system is critical to finding successful solutions to ending homelessness. For that reason, information at project exit, such as destination and income, are important to learn if and how the system has helped to resolve clients' housing crisis and to improve their overall stability. Data on returning clients also contribute to this goal. Comparing project entry data with project exit data at the aggregate level will also provide a picture of homeless project impacts on the clients they serve.

## **I. Data Quality Plan**

### **A. Data Quality Benchmarks**

As stated in the most current HMIS Data Quality Standards issued by HUD, all contributory Homeless Assistance projects need to follow HUD determined data quality benchmarks. These benchmarks are determined by HUD and are required. The goal of the benchmarks is to attain consistent data. The benchmarks in the following areas have been determined:

#### **1. Timeliness of Data**

To be most useful for reporting, HMIS database should include the most current information on the clients served by participating homeless projects. To ensure the most up to date data, information should be entered as soon as it is collected. Timely data entry also ensures that the data is accessible when it is needed, either proactively (e.g. monitoring purposes, increasing awareness, meeting funded requirements), or reactively (e.g. responding to requests for information, responding to inaccurate information). Therefore all client data should be entered within 24 hours of entry into a project.

- a. Client information is entered within 24 hours of entry/intake into a project
- b. Client information is updated regularly as information changes and at exit or annual assessment – per requirements relative to each universal and project specific data elements.

#### **2. Data Accuracy**

Information entered into the HMIS database needs to be valid and accurately represent information on the people that enter any of the projects contributing data to the HMIS database. Inaccurate data may be intentional or unintentional. In general, false or inaccurate information is worse than incomplete information, since with the latter, it is at least possible to acknowledge the gap. Thus, it should be emphasized to clients and staff that it is better to enter nothing (or preferably “don't know” or “refused”) than to enter inaccurate information. To ensure the most up-to-date and complete data, data errors should be corrected on a monthly basis.

- a. 95% of data entered into the HMIS database must reflect what clients are reporting
- b. Staff entering information into the HMIS database must enter information as stated by the client. Every project must enter data on clients in the same way over time, regardless of the staff person that is recording the data in HMIS.

### 3. Data Completeness

For accurate reporting purposes by the KnoxHMIS Project, data needs to be as complete as possible, and should contain all required information on all clients served in a project during a specified time period.

The goal of achieving HUD defined required HMIS coverage and participation by all local projects is essential for ensuring that the records are representative of all the clients served by these projects. All data entered into the HMIS shall be complete. Partially complete or missing data (e.g., missing digit(s) in a SSN, missing the year of birth, missing information on disability or veteran status) can negatively affect the ability to provide comprehensive care to clients. Missing data could mean the client does not receive needed services – services that could help them become permanently housed and end their episode of homelessness. The CoC’s goal is to collect 100% of all data elements. However, the CoC recognizes that this may not be possible in all cases. Therefore, the CoC has established an acceptable range of null/missing and unknown/don’t know/refused responses, depending on the data element and the type of project entering data.

Acceptable range of missing (null) and unknown (don’t know/refused) responses:

Data Element	Transitional Housing, Permanent Supportive Housing, Rapid Re-Housing		Emergency Shelter		Outreach Projects	
	MISSING	UNKNOWN	MISSING	UNKNOWN	MISSING	UNKNOWN
First & Last Name						
SSN	0%	0%	0%	0%	0%	10%
Date of Birth	0%	2%	0%	2%	0%	25%
Race	0%	2%	0%	2%	0%	25%
Ethnicity	0%	0%	0%	0%	0%	0%
Gender	0%	0%	0%	0%	0%	0%
Veteran Status (Adults)	0%	2%	0%	2%	0%	25%
Disabling Condition (Adults)	0%	5%	0%	5%	0%	25%
Residence Prior to Entry	0%	0%	0%	0%	N/A	N/A
Zip of Last Perm. Address	0%	5%	0%	5%	0%	10%
Housing Status (Entry)	0%	2%	0%	2%	N/A	N/A
Housing Status (Exit)	0%	2%	0%	2%	N/A	N/A
Income & Benefits (Entry)	0%	2%	N/A	N/A	N/A	N/A
Income & Benefits (Exit)	0%	2%	N/A	N/A	N/A	N/A
Add’l PDEs (Adults; Entry)	0%	2%	N/A	N/A	N/A	N/A
Reason for Leaving	0%	5%	0%	0%	N/A	N/A
Destination (Exit)	0%	5%	0%	0%	N/A	N/A

## 4. Training

Standardized training is provided by the KnoxHMIS and is vital to attaining quality data entry. Software training is performed using a standardized curriculum, presented in a consistent manner by the KnoxHMIS team.

- a. User training will cover how to collect data, how to pass data from front-line staff to data entry staff, how to log questions about the data, and how to resolve those questions, how to give feedback, and expectations for participating in user meetings. Some of these issues may be project specific, so they may need to be addressed by custom or specialized training rather than as part of the system-wide software training.
- b. All users must attend a minimum of one training session annually.

## II. Data Accuracy & Consistency

Information entered into the HMIS needs to be valid, i.e. it needs to accurately represent information on the people that enter any of the homeless service projects contributing data to the HMIS. Inaccurate data may be intentional or unintentional. In general, false or inaccurate information is worse than incomplete information, since with the latter, it is at least possible to acknowledge the gap. Thus, it should be emphasized to clients and staff that it is better to enter nothing (or preferably “don’t know” or “refused”) than to enter inaccurate information. To ensure the most up-to-date and complete data, data entry errors should be corrected on a monthly basis.

All data entered into the HMIS should be a reflection of information provided by the client, as documented by the intake worker or otherwise updated by the client and documented for reference.

Recording inaccurate information is strictly prohibited, unless in cases when a client refuses to provide correct personal information (see below).

Data consistency will ensure that data is understood, collected, and entered consistently across all projects in the HMIS. Consistency directly affects the accuracy of data; if an end user collects all of the data, but they don’t collect it in a consistent manner, then the data may not be accurate. All data in HMIS should be collected and entered in a common and consistent manner across all projects. To that end, all intake and data entry workers will complete an initial training before accessing the live HMIS system.

### Aliases

Participating agencies will make their best effort to record accurate data. Only when a client refuses to provide his or hers or dependent’s personal information and the project funder does not prohibit it, it is permissible to enter client data under an HMIS program alias. To do so, the agency must follow these steps:

- Create the client record, including any family members, using the first initials of their first name and middle name. Their last name would become the program name. For example *John W Smith* seeks services and *Helpful Housing*. *He could be entered in HMIS as First Name: JW, Last name: HelpfulHousing*

- Set the date of birth to the month of their birth, with the first day of the month (not their actual birth date), and the year of their birth. For example May 19, 1978 would be listed as 5/01/1978. This helps us keep close to the persons age without inputting their identifiable birthdate.
- Answer the “Name Data Quality” as partial, street name.
- Skip any other identifiable elements or answer them as “refused”
- Make a notation of the alias in the client file and include the corresponding HMIS Client ID number.

If a client’s record already exists in HMIS, the agency must not create a new alias record. Client records entered under aliases may affect agency’s overall data completeness and accuracy rates. The agency is responsible for any duplication of services that results from hiding the actual name under an alias.

### Client Duplicates

If an end user notices a client listed in HMIS with duplicate information, please contact KnoxHMIS support and request that KnoxHMIS staff merge the duplicate client.

To do so:

- E-mail [hmissupport@utk.edu](mailto:hmissupport@utk.edu)
- Indicate the client #s that need to be merged

### Sampling

Unless a more accurate method is available (e.g., client interview, third party verification, etc.), a sampling of client source documentation can be performed to measure the data accuracy rate. The HMIS support staff will request a number of client files or intake forms during the annual quality improvement site visit and compare the source information to that entered in the HMIS. Only those parts of the client file that contain the required information will be reviewed, excluding any non-relevant, personal, or agency specific information.

### Data Consistency Checks

The HMIS staff will check data accuracy and consistency by running project pre-enrollment, co-enrollment, or post-enrollment data analysis to ensure that the data “flows” in a consistent and accurate manner. For example, the following instances will be flagged and reported as errors:

- Mismatch between exit/entry data in subsequent enrollment cases
- Co-enrollment or overlapping enrollment in the same project type
- Conflicting assessments
- Household composition error

## III. Monitoring Plan

Information entered into HMIS must be entered in a timely manner. It is required that all information be entered into KnoxHMIS within 24 hours of entry/intake into the project. The projects entering information into the KnoxHMIS must update client information as often as client inform staff of changes and at exit from the project or during regular assessment updates. It is important that information is kept up to date in the KnoxHMIS database for data quality for reporting.

## Roles and Responsibilities

- **Data Timeliness:** The HMIS support staff will measure timeliness by running utilizing the HMIS vendor software reporting tool. Projects of different types will be reviewed separately. The summary report and any related client detail reports will be emailed to the agency program manager during the first week of the following month. The agency will be required to improve their data timeliness or provide explanation before the next month's report.
- **Data Completeness:** The HMIS support staff will measure completeness by running APRs, Universal Data Quality, or custom ART reports, and compare any missing rates to the data completeness benchmarks. The summary report and any related client detail reports will be emailed to the program manager during the first week of the following month. The agency will be required to improve their data completeness rate or provide explanation before the next month's report.
- **Data Accuracy:** The HMIS support staff will review source documentation during the annual site visits. The agency staff is responsible to make this documentation available upon request. To facilitate the process, the HMIS staff may send a list of Client IDs that will be reviewed beforehand. Outreach programs may be exempt from the data accuracy review.

## Monitoring Frequency

- **Monthly Review:** Data Timeliness and Data Completeness
- **Annual Review** – site visits: Data Accuracy
- **Other:** Data quality monitoring may be performed outside of the regularly scheduled reviews, if requested by program funders or other interested parties (the agency itself, HMIS Lead Agency, CoC, HUD, or other Federal and local government agencies)

## Compliance

- **Data Timeliness:** The average timeliness rate in any given month should be within the allowed timeframe.
- **Data Completeness:** There should be no missing (null) data for required data elements. Responses that fall under unknown (don't know or refused) should not exceed the allowed percentages in any given month. Housing providers should stay within the allowed utilization rates.
- **Data Accuracy:** The percentage of client files with inaccurate HMIS data should not exceed 5%.

## HMIS Data Quality Depth of Data Elements

### Name:

- First and Last Name not the same
- Suffix properly formatted
- No numerals in name fields (except Suffix)
- Suffixes not in last name field
- First name is not "Husband"; "Wife"; "Woman"; "Man"; "Baby" ;"Girl" "Boy" of similar

**Social Security Number/Quality Code:**

- SSN has all numbers and no dashes
- 9 digits when quality code indicates complete
- Less than 9 digits when quality code indicates partial
- All digits not the same; all numbers not sequential(123456789)
- No zero out of social security

**Date of Birth:**

- Earlier than current date
- Earlier than program entry date
- Later than 90 years from present
- Not minor in Adult shelter/Adult in youth shelter

**Ethnicity/Race:**

- Primary and secondary race not the same

**Gender:**

- Men not pregnant
- No male in woman's shelter/woman in men's shelter

**Veteran Status:**

- Client under 18 not veteran
- All veterans in veteran shelter
- Those receiving veteran's pension marked as veteran

**Disabling Condition:**

- Those receiving SSDI for themselves are marked as having a disability
- Those indicating substance abuse, mental health, physical disability, developmental disability, HIV/AIDS marked as having disability

**Residence prior to program entry**

- Self-report not contradicted by other HMIS data

**Zip Code of Last Permanent Address/Quality Code**

- Zip code complete if quality code marked as complete
- Zip code five or nine characters
- Zip code is valid
- Zip code has only numbers

**Program Entry Date/ Program Exit Date**

- All clients have a program entry date
- Program entry date later than birth date
- Program entry date prior to Exit date
- Entry and exit date not the same in residential shelter
- Length of program enrollment outliers are reasonable considering program type

**Household ID**



- No single person in family shelter
- No family in individual shelter
- One Head of Household per family

## Data Quality Reporting and Outcomes

The HMIS Staff will send data quality monitoring reports to the designated partner agency contact(s). Reports will include any recommendations corrective actions. If the agency fails to make corrections, or if there are repeated or egregious data quality errors, the HMIS Staff will notify partner agency executive administration and the CoC Lead with data quality details and recommendations for further action.

HMIS data quality certification is now part of several funding applications, including HUD, VA SSVF and ESG programs. Additional federal partners may require data quality certification as technology develops, which may include SAMSHA PATH and FYSBE RHYMIS funded programs. Low HMIS data quality scores may result in denial of this and other funding.

## IV TERMS & DEFINITIONS

**Data Quality Benchmarks** – Quantitative measures used to assess the validity and reliability of the data. These include measures for:

- **Timeliness** – Is the client information, including intake data, program entry dates, services provided, and program exit dates entered into the HMIS within a reasonable period of time? *Example: Client information is entered within 24 hours of intake.*
- **Completeness** – Are all of the clients receiving services being entered into the HMIS? Are all of the appropriate data elements being collected and entered into the HMIS? *Example: All programs using the HMIS shall enter data on 100 percent of the clients they serve. Example: Missing information does not exceed 5 percent for the HUD Universal and Program-Specific Data Elements for all clients served.*
- **Accuracy** – Does the HMIS data accurately and consistently match information recorded on paper intake forms and in client files? Are HMIS data elements being collected in a consistent manner? *Example: 95 percent of data entered into an HMIS must reflect what clients are reporting. Example: HMIS users will record the full, legal name of the client (first, middle, last) into the system. Do not use nicknames or aliases.*

**Data Quality Monitoring Plan** is a set of procedures that outlines a regular, on-going process for analyzing and reporting on the reliability and validity of the data entered into the HMIS at both the program and aggregate system levels. A data quality-monitoring plan is the primary tool for tracking and generating information necessary to identify areas for data quality improvement.

**Data Quality Plan** is a community-level document that facilitates the ability of a CoC to achieve statistically valid and reliable data. A data quality plan is generally developed by the HMIS Lead Agency with input from community stakeholders, and is formally adopted by the CoC. At a minimum, the plan should:

- Identify the responsibilities of all parties within the CoC that affect data quality.
- Establish specific data quality benchmarks for timeliness, completeness, and accuracy.
- Describe the procedures that the HMIS Lead Agency will take to implement the plan and monitor progress to meet data quality benchmarks.
- Establish a timeframe for implementing the plan to monitor the quality of data on a regular basis.

**Data Quality Standards** – A national framework for ensuring that every Continuum of Care can achieve good quality HMIS data. It is anticipated that HUD will propose Data Quality Standards that

- 1) Establishes administrative requirements and,
- 2) Sets baseline data quality benchmarks for timeliness, completeness, and accuracy.

**Homeless Management Information Systems (HMIS)** – A locally-administered electronic data collection system that stores longitudinal person-level information about the men, women, and children who access homeless and other human services in a community. Each CoC receiving HUD funding is required to have a functional HMIS. Furthermore, elements of HUD’s annual CoC funding competition are directly related to a CoC’s progress in implementing its HMIS.

### HMIS Data Elements

- **Universal Data Elements (UDEs)** – baseline data collection that is required for all programs reporting data into the HMIS. HUD’s Universal Data Elements are set forth in the HMIS Data Standards Revised Notice, May 2014, Data Elements 3.1 through 3.17.
- **Program Descriptor Data Elements (PDDE)** – data elements recorded about each project in the CoC, regardless of whether the project participates in the HMIS. PDDEs are updated at least annually. HUD’s PDDEs were set forth in the HMIS Data Standards Revised Notice, May 2014, Data Elements 4.1 through 4.19.
- **Program Specific Data Elements (PSDEs)** – data provided about the characteristics of clients, the services that are provided, and client outcomes. These data elements must be collected from all clients served by programs that are required to report this information to HUD. HUD’s Program-specific Data Elements are set forth in HMIS Data Standards Revised Notice, May 2014, Data Elements 4.14A through 4.43.
- **Annual Performance Report Program Specific Data Elements** – the subset of HUD’s Program-specific Data Elements required to complete the SHP Annual Performance Report (APR) set forth in the HMIS Data Standards Revised Notice, March 2010, Data Elements 4.1 through 4.14
- **HMIS Data Quality** – Refers to the reliability and validity of client-level data. HMIS data quality can be measured by the extent to which the client data in the system reflects actual information in the real world.

### HMIS Reports

- **Annual Homeless Assessment Report (AHAR)** – HUD’s annual report to Congress on the nature and extent of homelessness nationwide.

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- **System Performance Measures (SPM)**—HUD annual system-wide performance measures report including system wide data quality analysis.
  - **Annual Performance Report (APR)** – A reporting tool that HUD uses to track program progress and accomplishments of HUD homeless assistance programs on an annual basis.
  - **Universal Data Quality** – ART report that returns a list of clients enrolled in a particular program with universal data answers, and includes flags for missing answers.

**HMIS Staff** – Staff members of the HMIS Lead Agency that are responsible for user training, user support, reporting, analysis, and quality improvement of the HMIS data.

### **Program Types and Corresponding Funding Sources**

- Emergency Shelter (ES): ESG Shelter, VA Community Contract, Other/Private funding
- Transitional Housing (TH): SHP TH, VA GPD, Other/Private funding
- Permanent Supportive Housing (PSH): SHP PH, SPC, Sec. 8 SRO, VASH, Other/Private funding + SHP Safe Haven (for purposes of this DQ Plan)
- Rapid Re-Housing (RRH): ESG RRH, SSVF RRH, Other/Private funding
- Homelessness Prevention (HP): ESG HP, SSVF HP, Other/Private funding
- Outreach: ESG Outreach, SHP SSO with Outreach, PATH, Other/Private funding
- Supportive Services Only Programs (SSO): SHP SSO without Outreach, HHSP, HVRP, Other/Private funding