I INTRODUCTION

This document describes the Homeless Management Information System (HMIS) data quality plan for Houston/Harris County Continuum of Care (CoC). 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 Coalition for the Homeless of Houston/Harris County (local CoC / HMIS Lead Agency), 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.

HMIS Data and Technical Standards

An HMIS is 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 implement an HMIS to capture standardized data about all persons accessing the homeless assistance system. Furthermore, elements of HUD’s annual CoC funding competition are directly related to a CoC’s progress in implementing its HMIS. 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 Program (HPRP) funded under the American Recovery and Reinvestment Act (ARRA). Additional Data Standards are currently under revision to incorporate new privacy and technology industry standards.

What is Data Quality?

Data quality is a term that refers to the reliability and validity of client-level data collected in the HMIS. It is measured by the extent to which the client data in the system reflects actual information in the real world. With good data quality, the CoC can “tell the story” of the population experiencing homelessness. The quality of data is determined by assessing certain characteristics such as timeliness, completeness, and accuracy. In order to assess data quality, a community must first think about what data quality means and document this understanding in a data quality plan.

What is 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.
What is 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 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.

II DATA QUALITY PLAN

Data Timeliness

Entering data in a timely manner can reduce human error that occurs when too much time has elapsed between the data collection, or service transaction, and the data entry. The individual doing the data entry may be relying on handwritten notes or their own recall of a case management session, a service transaction, or a program exit date; therefore, the sooner the data is entered, the better chance the data will be correct. 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).

Data entry timeframe by program type (excluding weekends or holidays):

- **Emergency Shelters**: Universal Data Elements and Housing Check-In/Check-Out are entered within 1 workday (24 work hours after the check-in/check-out time)
- **Transitional and Permanent Supportive Housing Programs**: Universal Data Elements, Program-Specific Data Elements, and Housing Check-In/Check-Out are entered within 3 workdays
- **Rapid Re-Housing and Homelessness Prevention Programs**: Universal and Program-Specific Data Elements are entered within 1 workday (24 work hours after the enrollment/eligibility established)
- **Outreach Programs**: Limited data elements entered within 3 workdays of the first outreach encounter. Upon engagement for services, all remaining Universal Data Elements entered within 3 workdays
- **Supportive Services Only Programs**: Universal Data Elements are entered within 3 workdays

Data Completeness

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 Continuum of Care’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 program entering data.

All Clients Served

All programs using the HMIS shall enter data on one hundred percent (100%) of the clients they serve.
Acceptable range of missing (null) and unknown (don’t know/refused) responses:

<table>
<thead>
<tr>
<th>Data Element</th>
<th>TH, PSH, HUD SSO, RRH, HP</th>
<th>ES, Non-HUD SSO</th>
<th>Outreach</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Missing</td>
<td>Unknown</td>
<td>Missing</td>
</tr>
<tr>
<td>First &amp; Last Name</td>
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<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>SSN</td>
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<td>0%</td>
</tr>
<tr>
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<td>0%</td>
</tr>
<tr>
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<td>0%</td>
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<td>Ethnicity</td>
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<td>5%</td>
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</tr>
<tr>
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</tr>
<tr>
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<td>Disabling Condition (Adults)</td>
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<td>0%</td>
</tr>
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<td>0%</td>
</tr>
<tr>
<td>Zip of Last Perm. Address</td>
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<tr>
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<td>0%</td>
</tr>
<tr>
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<tr>
<td>Income &amp; Benefits (Exit)</td>
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<td>10%</td>
<td>N/A</td>
</tr>
<tr>
<td>Add'l PDEs (Adults; Entry)</td>
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<td>5%</td>
<td>N/A</td>
</tr>
<tr>
<td>Destination (Exit)</td>
<td>0%</td>
<td>10%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Bed/Unit Utilization Rates
One of the primary features of an HMIS is the ability to record the number of client stays or bed nights at a homeless residential facility. Case managers or shelter staff enter a client into the HMIS and assign them to a bed and/or a unit. The client remains there until he or she exits the program. When the client exits the program, they are also exited from the bed or unit in the HMIS.

Acceptable range of bed/unit utilization rates for established projects:
- Emergency Shelters: 75%-105%
- Transitional Housing: 80%-105%
- Permanent Supportive Housing: 85%-105%

The CoC recognizes that new projects may require time to reach the projected occupancy numbers and will not expect them to meet the utilization rate requirement during the first operating year.

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 programs 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 CoC’s HMIS shall 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 programs 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 shall be collected and entered in a common and consistent manner across all programs. 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 her dependant’s personal information and the program funder does not prohibit it, is it permissible to enter client data under an alias. To do so, the agency must follow these steps:
- Create the client record, including any family members, under an assumed first & last name
- Set the date of birth to 1/1/XXXX, where XXXX is the actual year of birth
- 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

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.

**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 may check data accuracy and consistency by running program 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 program type
- Conflicting assessments
- Household composition error

### III DATA QUALITY MONITORING PLAN

**Roles and Responsibilities**

- **Data Timeliness**: The HMIS support staff will measure timeliness by running custom reports in ClientTrack’s Data Explorer tool. Programs 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 Data Explorer 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 ClientIDs 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 10%. (For example, if the sampling includes 10 client files, then 9 out of 10 of these files must have the entire set of corresponding data entered correctly in HMIS.)

### Data Quality Reporting and Outcomes

The HMIS Staff will send data quality monitoring reports to the contact person at the agency responsible for HMIS data entry. Reports will include any findings and recommended corrective actions. If the agency fails to make corrections, or if there are repeated or egregious data quality errors, the HMIS Staff may notify the agency’s funders or community partners about non-compliance with the required HMIS participation.

HMIS data quality certification is now part of several funding applications, including for CoC and ESG programs. Low HMIS data quality scores may result in denial of this 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 2 working days 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** – 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** – 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**

- **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 Program Descriptor Data Elements as set forth in the HMIS Data Standards Revised Notice, March 2010, Data Elements 2.1 through 2.13.

- **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, March 2010, Data Elements 3.1 through 3.15.

- **Program Specific Data Elements (PDEs)** – 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, March 2010, Data Elements 4.1 through 4.15H.

- **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.
- **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. Formerly known as the Annual Progress Report.
- **Universal Data Quality** – ClientTrack’s report that returns a list of clients enrolled in a particular program with universal data answers, and includes flags for missing answers.
- **Data Explorer** – ClientTrack’s custom reporting utility that can be used for data quality analysis.

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