

Utah Homeless  
Management  
Information  
System

**UHMIS Data  
Quality Plan**

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## Acknowledgments

Much of this plan was created by referencing, “From Intake to Analysis: A Toolkit for Developing a Continuum of Care Data Quality Plan”<sup>1</sup>, published on [HUDEXchange.info](http://HUDEXchange.info) in 2009. Unless otherwise cited, this toolkit was the basis for each component of data quality and a starting point for the UHMIS System Administration team to develop a UHMIS Monitoring Toolkit.

Additional acknowledgments are due to the UHMIS Steering Committee and UHMIS System Administration. This plan would not have been as thorough or as inclusive without each of their unique perspectives and expertise regarding HMIS, homelessness services, and challenges we face within the state of Utah.

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<sup>1</sup> Source: <https://files.hudexchange.info/resources/documents/HUDDDataQualityToolkit.pdf>

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## Purpose

The purpose of this Data Quality plan is to improve and maintain the overall data quality of the Utah Homeless Management Information System (UHMIS). This plan details the expectations for data quality for all Covered Homeless Organizations (herein referred to as “Agencies”)<sup>2</sup> that input into UHMIS. This plan also defines the monitoring process that UHMIS System Administration uses to monitor overall UHMIS data quality and basic compliance with the UHMIS Standard Operating Procedures. This policy and its associated monitoring toolkit were created with the direct intent of improving and maintaining the data quality of UHMIS statewide. The UHMIS Data Quality Plan will be considered standard UHMIS Policy after it is approved by the UHMIS Steering committee. Updates or changes to this policy may be completed at any time with the approval of the UHMIS Steering Committee. The UHMIS Steering Committee will determine if proposed updates will require a comment period. If a comment period is required then the committee will only give final approval and require Agencies to comply with the policy only after the comment period has closed.

All Agencies who input into UHMIS will be subject to this plan regardless of funding source.

If the result of this data quality plan does not create increased data quality of the UHMIS it will be revised until the desired data quality benchmark is reached, benchmarks are defined in the components for data relevancy, accuracy, completeness, and timeliness.

## Revision History

Date of Update	Date of UHMIS Steering Committee Approval	Changes Made
7/17/19	N/A	Presented to UHMIS Steering Committee
8/8/19	N/A	Pre comment period draft sent to UHMIS Steering Committee for approval.

## Comment Periods

Before the final approval of this plan, a comment period will be opened up for all UHMIS users and stakeholders. Comment periods may be opened up when this document is revised if the UHMIS Steering Committee decides that the revisions are substantial enough to require a

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<sup>2</sup> “Covered Homeless Organization (CHO). Any organization (including its employees, volunteers, affiliates, contractors, and associates) that records, uses or processes PPI [Personally Protected Information] on homeless clients for an HMIS.” Section 4.1.1.2, pg. 42, <https://files.hudexchange.info/resources/documents/2004HUDDataandTechnicalStandards.pdf>

comment period. The conditions of the comment period will be posted on [UtahHMIS.org/Governance](https://UtahHMIS.org/Governance).

Comments will be reviewed by UHMIS System Administration before final approvals by UHMIS Steering Committee.

## Defining data quality

HMIS data quality standards are defined in the 2004 HMIS Data and Technical Standards Final Notice published by the U.S. Department of Housing and Urban Development (HUD) in July 2004<sup>3</sup>. The notice defines data quality as, “PPI [Personally Protected Information] collected by CHO [Agency] 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.” This policy and associated monitoring toolkit will focus on ensuring that information entered into the UHMIS is relevant to the services rendered by Agencies and is accurate, complete, and timely.

## Components of the UHMIS data quality plan

The following sections include the components of data quality that UHMIS is bound to. Each component has its own benchmark that Agencies are expected to meet.

### 1. Data Relevancy

Information input into the UHMIS will be determined relevant if it meets the most current HMIS Data Standards<sup>4</sup> pushed by HUD. These data standards are updated biannually and can be found on [HUDExchange.info](https://HUDExchange.info)<sup>5</sup>. Relevancy may also be defined by UHMIS stakeholders, including state and local governments, Continuums of Care, Local Homeless Coordinating Committees, Agencies, or other stakeholders in Utah’s homeless services system. If additional data points are deemed relevant, documentation of the additional data required will be in the policies of the appropriate project with the inputting Agency, the UHMIS System Administration team, and other stakeholders as necessary. If an Agency is not entering data into UHMIS in line with documented HMIS data standards and other documented stakeholder standards then the Agency will not meet the relevancy benchmark.

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<sup>3</sup> Source: Section 4.2.2, page 43, <https://files.hudexchange.info/resources/documents/2004HUDDataandTechnicalStandards.pdf>

<sup>4</sup> Source: <https://www.hudexchange.info/resource/3824/hmis-data-dictionary/>

<sup>5</sup> As of July 2019, the 2020 HMIS Data Standards have been published and will be effective October 1, 2019.

## 1. Data Relevancy: Benchmark

Agencies will adhere to the most recent published HUD HMIS Data Standards for all data input into the UHMIS. If Agencies have additional data standards they must be on record with the Agency and other relevant stakeholders. Standards may be reviewed during monitoring.

## 2. Data Accuracy

The purpose of accuracy is to ensure that the data in the UHMIS is the best possible representation of reality as it relates to persons who are homeless or formerly homeless and the programs that serve them. To that end, all data entered into the UHMIS shall be a reflection of information provided by the client, as documented by the UHMIS user or otherwise updated by the client and documented for reference. Agencies may also enter data in real-time without generating additional documentation. If Agencies choose real-time data entry they must have policies in place to ensure accurate data collection and correction.

Recording inaccurate information, both intentional and unintentional, is strictly prohibited. Inaccurate information is in general worse than incomplete information; as with incomplete information a gap is at least identifiable. It is preferable for UHMIS end-users to enter nothing (i.e. “don’t know”, “client refused”, or “data not collected”) than to enter inaccurate information.

### 2.1 Data Accuracy: Validation

Agencies are responsible for having data validation procedures that are effective in finding and correcting data entry errors at least quarterly. Data validation procedures should be available during UHMIS monitoring and may be reviewed by the UHMIS System Administration during annual monitoring as described within the monitoring section and the UHMIS Monitoring Toolkit<sup>6</sup>. Further, Agencies will have client files and/or real-time data collection processes reviewed during the UHMIS monitoring process as described in the monitoring section.

### 2.2 Data Accuracy: Training

All data in UHMIS shall be collected and entered in a common and consistent manner across all programs. UHMIS System Administrators will provide new end-user training, annual recertification training, and other training as determined by UHMIS leadership to all UHMIS users. All UHMIS users will complete a new end-user training before accessing the live UHMIS system, and all UHMIS users must recertify their UHMIS knowledge on an annual basis. The annual UHMIS recertification plan is contained in Appendix A.

### 2.3 Data Accuracy: Data collection outside of UHMIS

The assessment workflow available in UHMIS is considered the primary source of data collection for each project in UHMIS. Therefore if the Agency chooses to create a separate document for data collection outside of UHMIS it must collect data in the same manner as

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<sup>6</sup> UHMIS Monitoring Toolkit is found at [UtahHMIS.org/Governance](http://UtahHMIS.org/Governance).

UHMIS does for the same project(s) the document is meant to collect data for. Agencies may add additional data elements to their assessments so long as the additional data collected falls within data quality guidelines for Data Relevancy. UHMIS System Administration may be contacted to add missing data elements to UHMIS if the Agency requires its input into UHMIS for its program(s).

## 2. Data Accuracy: Benchmarks

Agency will comply with the Data Accuracy benchmarks if they meet the following criteria for each subcategory in Data Accuracy:

- 2.1 Validation:
  - Agencies have established policies and procedures for data validation, the validation process occurs at least quarterly<sup>7</sup> within the organization.
  - Agencies may be asked to provide client files, other data collection records, or have real-time data collection observed to monitor data validation.
- 2.2 Training:
  - Agencies are responsible to ensure that all UHMIS users meet the following training requirements. Any UHMIS user who does not meet these minimum training standards may have their access to UHMIS removed.
    - All persons needing access to UHMIS will attend a new end-user training administered by UHMIS System Administration before gaining access to UHMIS.
    - All UHMIS users must complete recertification training by UHMIS System Administration annually.
    - UHMIS leadership may determine additional training requirements for UHMIS users.
- 2.3 Data Collection outside of UHMIS:
  - The Agency will have any and all data collection documents created for the Agency available during UHMIS monitoring to review the documents for consistency between the UHMIS and the data collection document.

## 3. Data Completeness

The goal of UHMIS is to collect 100% of all data elements for all clients served with an applicable UHMIS project. Partially completed or missing data 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.

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<sup>7</sup> While only quarterly validation procedures are required, the UHMIS System Administration team strongly recommends that Agencies do monthly data validation. This is because: (1) data issues become increasingly difficult to correct the more time that passes between service delivery and data entry, (2) data must be ready to report no later than the 15th of every month, and (3) data timeliness will be reduced if Agencies are backdating data for more than five business days.

Complete HMIS data is necessary to fully understand the demographic characteristics and service use of persons in the system. Complete data facilitates confident reporting and analysis on:

- Nature of Homelessness.
- Extent of Homelessness.
- Unduplicated counts of clients served at the local level.
- Patterns of use of people entering and exiting the homeless assistance system.
- Evaluation of the effectiveness of homeless systems.

UHMIS recognizes that 100% data completeness may not be possible in all cases. Therefore, each required data element has an acceptable data collection error rate of between zero and ten percent. Appendix B details the acceptable error rate for each data element. Data collection errors could include the responses: “Client Doesn’t Know”, “Client Refused”, “Data Not Collected”, null, or missing responses. The percentage of allowed missing errors is dependent on the HUD HMIS defined data element. Errors will be calculated using the UHMIS generated HUD Data Quality Report.

### 3. Data Completeness: Benchmark

Agencies will review their own Data Quality<sup>8</sup> reports and compare the error rates to the most recent version of Appendix B to verify that the Agency meets the data completeness standards set by UHMIS. If the Agency does not meet the minimum standard the Agency will detail policy and procedures used to improve upon its existing and future data input into the UHMIS. UHMIS System Administration will monitor both Agency data quality reports and Agency data quality policies during the monitoring described within the monitoring section of this document.

### 4. 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 funding requirements), or reactively (e.g. responding to requests for information, responding to inaccurate information)<sup>9</sup>.

UHMIS mandates that Agencies will enter data into UHMIS no more than five business days after any service or contact is conducted with any client for any UHMIS participating project which may include but is not limited to: Emergency Shelter, Permanent Housing, Transitional Housing, Street Outreach, or Homeless Prevention. Because entering data at the moment of

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<sup>8</sup> Instructions for generating the Data Quality Report from UHMIS are found on UtahHMIS.org

<sup>9</sup> Source: Pg. 8-9, <https://files.hudexchange.info/resources/documents/HUDDDataQualityToolkit.pdf>

contact greatly improves data quality UHMIS encourages all Agencies to input data in less than five business days or in real-time where possible. Agencies should develop policies and procedures for validating the accuracy and consistency of data that is entered directly into UHMIS that does not generate any other back up documentation to ensure that all data entered meets the data quality standards set forth in this document.

#### **4. Data Timeliness: Benchmark**

Agencies will enter data no more than five business days after contact has been made with a client for all UHMIS participating projects. UHMIS System Administration will monitor timeliness in the HUD Data Quality Report generated from UHMIS to determine if the Agency meets data timeliness standards. Agencies who enter data into UHMIS in real-time must have established policies and procedures to ensure that data entered in real-time is accurate and complete. UHMIS System Administration will monitor the data collection process and the policies and procedures for Agencies that choose to enter data in real-time during the monitoring described within the monitoring section of this document.

## **Monitoring**

To ensure that the UHMIS data quality plan is followed by all Agencies participating in UHMIS, this plan documents the expectations and methods for monitoring activities related to UHMIS quality. It is expected that all Agencies meet or exceed the data quality benchmarks described in the UHMIS Data Quality Plan. Agencies who do not meet the benchmarks will work with UHMIS System Administration and UHMIS Steering Committee to customize an improvement plan that works for the Agency. Agencies may be deemed higher risk and be required to submit to additional training or monitoring if data quality does not improve. If after corrective action has been taken and improvement has not been made, Agencies may face consequences up to termination of access to the UHMIS, dependent on the severity of the issue and at the discretion of the UHMIS Steering Committee. All monitoring will be done in accordance with the UHMIS Monitoring Toolkit posted at [UtahHMIS.org/Governance](http://UtahHMIS.org/Governance).

The toolkit UHMIS System Administration staff will use to monitor UHMIS Agencies will be posted on [UtahHMIS.org/Governance](http://UtahHMIS.org/Governance). UHMIS System Administration has full authority to alter all monitoring tools so that they may best identify poor data quality and help Agencies improve upon their data wherever possible. While UHMIS System Administration has full authority to update the toolkit, changes made to the toolkit will be published before September of each calendar year to allow Agencies the opportunity to review the toolkit and prepare for their monitoring during each State Fiscal Year.

The state of Utah UHMIS Steering Committee and System Administrators highly encourage local Continuum of Care, Local Homeless Coordinating Committees, Agencies, and other stakeholders to develop further data quality monitoring tools for their jurisdictions. Data quality improvement can only be accomplished if all invested persons in the UHMIS make it a priority.

UHMIS System Administration is available to assist stakeholders in developing appropriate monitoring tools upon request.

## Risk Assessment

UHMIS System Administration will determine Agency risk annually by the beginning of the State Fiscal Year which runs from July 1 to June 30. Agencies will be notified of their risk level and will have monitoring date scheduled no later than October 1st every year unless otherwise documented on the official UHMIS System Administrators website, [UtahHMIS.org/Governance](http://UtahHMIS.org/Governance). A risk assessment tool will be contained in the UHMIS monitoring toolkit found on [UtahHMIS.org/Governance](http://UtahHMIS.org/Governance).

This tool uses a point system that will be compared to all UHMIS entering Agencies to find the overall statistical risk that the Agency presents to the UHMIS. Agencies with statistically higher than average risk will be considered “High Risk”, Agencies with average risk will be considered “Normal Risk”, and Agencies risk lower than average will be considered “Low Risk”.

Each metric in the tool will be scored independently then weighted to find the total Agency risk score. Without weighting, some of the metrics in the tool will create a score that is inadvertently weighted more heavily than other metrics. The weights are identified in the score sheet.

Finally, the UHMIS risk score and monitoring risk level the Agency receives is independent of any funding opportunities that may be administered through the Department of Workforce Services Housing and Community Development or any other funding source. However, ultimately poor data quality in UHMIS may negatively affect funding opportunities for the Agency.

## Monitoring Frequency

The intensity and frequency of monitoring will be determined by the risk assessment tool. All Agencies will receive some type of monitoring annually with high-intensity monitoring occurring every third state fiscal year. The year a normal or low-risk Agency receives the High-Intensity monitoring will be established by UHMIS System Administration and will be followed thereafter.

All reports generated for any monitoring will be generated for the full calendar year prior to the monitoring month, which will allow the Agency to enter data for the final month of the previous year. It is expected that Agencies always have their data report ready no later than the 15th day after the end of the month. For example, if monitoring occurs on November 16, 2020, UHMIS System Administration will run reports for October 1, 2019, to October 31, 2020, no sooner than November 15, 2020. If the monitoring occurs on November 14, 2020, UHMIS System Administration will run reports for September 1, 2019, to September 30, 2019.

## Appendix A: Annual recertification for all HMIS End-Users timeline

**Approved by UHMIS Steering Committee on 5/22/19**

**Purpose:** To fulfill the annual end-user requirement set by several sources including; State Homeless Funding FY20 RFP, Utah HMIS Standard Operating Procedures, and the Performance Audit of Utah Homeless Services.

**To approve:** Each end-user must complete an annual training (or recertification) within the following timeline, without respect to the date they originally began using the system. User access permissions will be removed for all end-users who have not met the recertification requirements as identified below.

### **Timeline, recurring annually:**

December 1: End-users notified that recertification is due, and given the resources to complete training requirements.

- Training will be provided mostly via YouTube and Google form quiz. Recertification training topics will be approved in the September UHMIS Steering committee meeting. Efforts will be made to keep the training to less than one hour.
- Individual agencies, LHCCs, and CoCs will be responsible for reminding end-users to complete the training on time.

January 1: End-user recertification due.

January 10: All end-users who have not completed recertification training receive a warning that their account will be deactivated if training is incomplete.

January 31: Final warning and notification that recertification was incomplete sent to end-users and HMIS Data contacts (collected during State RFP process) or other appropriate persons.

February 28/29: All end-users accounts will be set to become inactive when end-users complete training requirements then they will have their access permissions extended for another calendar year.

## Appendix B: Acceptable error rates in the UHMIS generated HUD Data Quality report for all programs

**Note:** This table was created to align with the 2020 HUD HMIS data standards found on [HUDEXchange.info](http://HUDEXchange.info)<sup>10</sup> and the HUD Data Quality Report generated from ClientTrack. Which is the current implementation of the UHMIS. If elements of this table are updated from either HUD HMIS data standards or the UHMIS HUD Data Quality report, it will be posted on the same webpage as this Data Quality Plan is posted on the [UtahHMIS.org/Governance](http://UtahHMIS.org/Governance) website.

Q1. Report Validation Table	
No error rates reported in table	
Q2. Personally Identifiable Information	% of acceptable Error Rate
Name (3.01)	0%
Social Security Number (3.02)	10%
Date of Birth (3.03)	0%
Race (3.04)	5%
Ethnicity (3.05)	5%
Gender (3.06)	0%
Overall Score	10%
Q3. Universal Data Elements	% of acceptable Error Rate
Veteran Status (3.07)	5%
Project Entry Date (3.10)	0%
Relationship to Head of Household (3.15)	0%
Client Location (3.16)	0%
Disabling Condition (3.08)	5%
Q4. Income and Housing Data Quality	% of acceptable Error Rate
Destination (3.12)	10%

<sup>10</sup> Source: <https://www.hudexchange.info/resource/3824/hmis-data-dictionary/>

Income and Sources (4.2) at Start	0%
Income and Sources (4.2) at Annual Assessment	5%
Income and Sources (4.2) at Exit	10%
<b>Q5. Chronic Homelessness</b>	<b>% of acceptable records unable to calculate</b>
ES, SH, Street Outreach	0%
TH	0%
PH (All)	0%
Total	0%
<b>Q6. Timeliness</b>	
No error rates reported in table	10% To find: <ol style="list-style-type: none"> <li>1) Sum the total number of project start records and project exit records.</li> <li>2) Sum the total project start and project exit records entered at 11+ days.</li> <li>3) Divide the 11+ days total by the total for all.</li> <li>4) Convert to a percentage.</li> </ol>
<b>Q7. Inactive Records: Street Outreach &amp; Emergency Shelter<sup>11</sup></b>	<b>% of acceptable Inactive Records.</b>
Contact (Adults and Heads of Household in Street Outreach or ES - NBN)	10%
Bed Night (All Clients in ES - NBN)	10%

<sup>11</sup> Q7. Inactive Records table will change with the 2020 HUD HMIS Data Standards, effective October 1, 2019. Refer to the most current version of Appendix B, posted on [UtahHMIS.org/Governance](http://UtahHMIS.org/Governance) for this element.