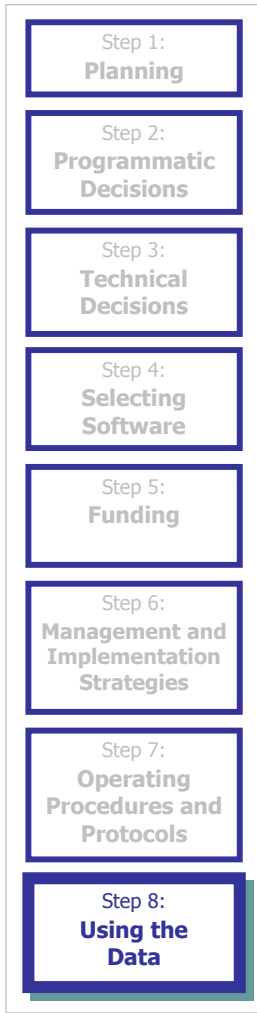


Step Eight: Using the HMIS Data



Once the system has been in operation for long enough to produce several client records, communities can begin to realize some of their goals of measuring outcomes. This final step discusses HMIS data; the purpose and uses of this information; and how to use it, including related policies, analysis techniques, and report types. The step concludes with a community example of data use.

Why Use HMIS Data?

Most continua consider the data that will result from the HMIS to be at least one of the primary goals of the system. Data resulting from HMIS can inform program, agency, and communitywide planning. Programs, agencies, and communities can use HMIS data as part of broader evaluations that focus on qualitative issues as well as the hard numbers. If, for example, data show that one service program achieves consistently better client outcomes than other local providers, the community could invest in a broader evaluation to identify best practices used by program staff.

At the program level, HMIS can produce reports on client characteristics, use of services, and outcomes. Some systems also include financial and other management data. Most can be programmed to generate funder reports such as the APR. This information can then be utilized to make program changes, when appropriate. For example, if data show that the majority of participants are experiencing poor outcomes in job retention, program staff could decide to conduct a thorough review of the services in that area and possibly add employment assistance programming.

These benefits are relevant at the agency level, as well. Agencies that run multiple programs can use HMIS information to compare and evaluate the efficacy of various interventions. Over time, it may become clear that one program has a higher success rate in working with particular populations while a program at another site does better with another population. Referral strategies can then be modified to ensure that participants are sent to the programs that will best serve them.

At the community level, these data can inform CoC planning. The data can be used to generate an unduplicated count of clients and to understand their characteristics, factors contributing to homelessness, and use of system resources. The information can identify gaps and duplication in services. Point-in-time information can inform system capacity needs, while longitudinal information can inform program efficacy. Aggregate data may show that the region is doing an excellent job of serving the long-term homeless, for example, but having less success quickly moving people who are episodically homeless into housing. Programs designed to meet this goal could then be created. Geographic analyses could reveal that one town in the continuum is lacking in services while another is inundated with overlapping programs. Additionally, analyses of the prior living situations of particular homeless populations can help CoCs more appropriately target prevention funds.

How to Use HMIS Data

To begin to make sense of HMIS data, communities must develop policies around the release of data, including methods for calculating representativeness. It is also important to develop some basic skills in analysis for developing unduplicated, aggregate data sets. Once data are entered, it is time to turn to this section's discussion of release procedures and report types and strategies.

Data release policies

Once an HMIS has been implemented and data are being entered into the system, data release policies need to be developed. These protocols state the ways in which the data can be used and shared. The policies should specify criteria for data release including:

- ◆ Data coverage: What coverage threshold does the community need to reach before aggregate HMIS data can be released? Generally, data should represent the percentage of the overall homeless population that is considered representative of the larger homeless population. (A local statistician can provide guidance on the level of coverage needed within the community to achieve generalizability⁸. See below for suggested methods for determining existing levels of coverage.)
- ◆ Data anonymity: Data should only be publicly released in anonymous aggregate formats. Additionally, to protect the privacy of the individuals whose information is stored in the system, data should not be publicly released if characteristics of an individual can be inferred due to small sample sizes. There are statistical methods to determine appropriate data suppression policies.
- ◆ Data parameters: What do the data represent and what do they not represent? For example, data may represent homeless emergency shelter users but not homeless people in transitional programs or supportive housing. In many communities, the data represent people who access services but do not include those who reside on the streets. All data releases should be accompanied by data parameters guiding interpretation.
- ◆ Principles of access to aggregate data: Who should have access to the data, in what form should the data be released, and what group maintains decisionmaking authority for these issues? In some communities, data are first released just to local stakeholders and only later, after that group agrees with their accuracy, to the larger public and the media. Program-specific information could be released only if the agency's executive director provides written consent.
- ◆ Data formats: Ideally, once a community is comfortable that the content is accurate and appropriately represented, the data would be released as written reports and as data sets for research purposes.

Calculating data coverage

Once sufficient data have been entered into the HMIS to meet the minimum data coverage requirement in the data release policies, data can be compiled for reports. Two methods for calculating existing system coverage are presented below. One is based on persons served, the other on the number of beds in the system.

⁸ This is a specific statistical term.

Coverage rates based on persons served are determined by calculating the total number of beds in the shelter system and multiplying that figure by the average annual turnover in those beds, thus estimating the proportion of total persons served by the shelter system represented in the data. This method relies on an accurate turnover rate. Many communities use rates from prior studies—often of other regions.

$$\text{Total Beds} \times \text{Turnover Rate} = \text{Total Persons Served}$$

$$\text{Total Records} \div \text{Total Persons Served} = \text{Coverage Rate}$$

For example, if the individual shelter system has 4,000 beds across all of the emergency shelter programs, using a turnover rate of 5 (that is, on average, 5 people are served by each shelter bed over the course of a year), the shelter system would serve 20,000 people over the year. If there were 12,500 individual records for the year, coverage would be 12,500/20,000, or 63 percent.

Coverage rates based on beds involve dividing the number of beds in the overall shelter system by the number of beds for which the HMIS was being utilized.

$$\text{Total Beds in System} \div \text{Total Beds} = \text{Coverage Rate}$$

For example, if the individual shelter system has 4,000 beds across all emergency programs, and the HMIS is being used for 2,600 of those beds, then coverage would be 2,600/4,000 or 65 percent.

Data analysis

To analyze data and produce reports, communities must contract with skilled personnel. It is critical that communities employ paid analysis staff. Communities often neglect to include this critical staff member on their team and find already overburdened team members struggling to produce reports without the requisite skills and experience. Many communities have had success in engaging local universities to assist with data analysis.

Whether using a statistical consultant or a staff member, this work entails compiling databases, cleaning the data for errors and inconsistencies, running data analyses, and writing the requested reports. A statistical consultant can also document the statistical percentages of error and significance levels, thereby further detailing what the data actually represent.

◆ Merging databases

As outlined in Step Three, HMISs can collect data in one system or different databases, which must then be merged for aggregate reporting. There are additional aspects to preparing data for aggregate analyses when an HMIS consists of separate databases. Most importantly, data fields in separate databases need to be defined in the same manner to facilitate merging of the various databases. Unique client identifiers need to be computed consistently across databases to allow for developing an unduplicated count when merging them (see Step Two for a discussion of unique identifiers).

- ◆ Tools for data analysis

Many software programs are available to analyze data. The choice of software depends on the analysis goals. A basic spreadsheet application (such as Microsoft Excel or Lotus) is sufficient to summarize the data for reporting. Statistical programs, such as Statistical Package for Social Sciences or Service and Support, can compute more advanced analyses. Geographic Information System applications, such as Environmental System Research Institute's ArcView, ArcInfo, or MapInfo, can be used to compare data attributes by location information. Another commonly used reporting tool is Crystal Reports, an easy-to-use software product designed to create reports.

- ◆ Types of analyses

There are various types of analyses that can be conducted on HMIS data. Descriptive presentation of the data refers to describing characteristics of clients and their use of services and service outcomes within a defined time period (e.g., calendar year, fiscal year, given night). Once consistent data have been collected over time, trend analyses can be prepared. These analyses can compare information collected in different years or point-in-time information on a summer night with a winter night. HMIS data also lend themselves to statistical analyses, such as testing hypotheses about the relationship of client characteristics and service use to a variety of program outcomes. Geographic analysis can help communities understand relationships between attributes and location, such as service need and service availability or homelessness and poverty indicators.

Prior to release, analysis results should be presented for feedback to service providers and consumers. Some communities mandate this process in their data-release policies. This inspection serves as a validity check for the compiled information.

Data reports

An HMIS can generate many different kinds of reports. However, reports can only be created for the data that are tracked and only about the information that is entered. Some reports may be preprogrammed in an off-the-shelf HMIS or developers and local MIS staff can create community and agency-specific reports. Regardless, software should include a customizable reports module so staff can be trained to generate additional reports as needed. In addition, data can be used to forecast bed availability and generate need-based reports.

Consumer involvement at this stage can enhance the meaning of client responses and the understanding of the analytical findings. At times, data paint a picture that omits important nuances and lead to misinterpretation. Anecdotes and real experiences (qualitative data) lend substance to the hard facts—humanizing the data. For example, discussions with consumers can illuminate gaps in service usage that data cannot explain and increase understanding about where people go and what they do when there is no service available.

- ◆ Client reports

At the client-level, reports relate to program referrals, benefit eligibility, and case management. Client reports can be used as a tool that can be printed with program referral information and standard client intake information to simplify subsequent intake processes. Benefit eligibility reports can be generated after all necessary client information has been entered into the HMIS. For example, in its early stages the Massachusetts HMIS project included a linkage to MicroMax benefits-eligibility software. This product enabled case managers to produce reports listing the

benefits clients could apply for as well as methods for maximizing those benefits. In the future the community plans to further develop this tool so that benefit applications can be printed and even submitted directly from the software. Case management and client progress can be assessed across programs that agree to share information or across programs within one agency. These types of reports should be programmed into the software.

◆ Program/agency reports

Standard progress reports such as the APR, HUD's ESG report, Federal Emergency Management Agency (FEMA), and others requested by public and private funders can be easily generated from the HMIS database as long as the information is included in the universe of data fields (Step Two). Reports for Federal homeless grants are often preprogrammed in HMIS packages. In addition, the data can be used to substantiate grant applications for additional funds and in agency annual reports. Further, data can be used for program evaluation. As an example, a 2-year indepth evaluation of the Boston Transition-To-Work Collaborative was completed. All of the quantitative data for this evaluation were collected using the community's HMIS. These data were then supplemented with qualitative interviews to provide a fuller picture of program participants' experiences.

◆ Communitywide reports

In addition to client and program/agency reports, data can be aggregated to represent unduplicated client-level information in larger service areas. For example, data could be aggregated at the city, county, and/or State levels. System-wide reports can affect local policies (see community example below). If all communities respond to the congressional directive, the information can be aggregated to better understand the extent and experience of homelessness at State and national levels. This information could then be used on a broad level to influence national policies and funding.

Community Example #8: Franklin County, Ohio—A Model of System Change Fueled by HMIS Data

The Franklin County, Ohio (City of Columbus) experience demonstrates that significant programmatic change can occur as a result of analyzing HMIS data. A longitudinal view of homelessness in the county showed that there were two distinct types of single male shelter users—each with different service and housing needs. The study found that 15 percent of the city's homeless men used more than 56 percent of the system's resources, while the remaining 85 percent stayed in the system only for short transitional periods. The long-term shelter users often required additional services, including mental health and substance abuse treatment. Identification of the specific characteristics and needs of the chronically homeless men enabled community members to devise a new strategy, entitled Rebuilding Lives. As a result of the study, the task force recommended that the city and county develop service-enriched supportive housing for long-term users of the system thus freeing shelter resources for those requiring short-term support. These findings formed the basis of a communitywide strategic plan regarding homelessness.

Supporting Materials

- ◆ Several reports using HMIS data are available from the Center for Social Policy, McCormack Institute, University of Massachusetts Boston. They can be downloaded from the Center's Web site at http://www.mccormack.umb.edu/csp/csp_tech.htm.
- ◆ Sample Access to Data policies are also available on that Web site.

Using the Data Exercise #1: Achieving Data Accuracy

Goal

Establish procedures to verify that the information input into the HMIS is accurate.

- ◆ Is the design of the data-entry form user friendly, minimizing opportunity for errors?
- ◆ Are there direct benefits to staff and consenting consumers for providing complete and accurate data for entry into the HMIS?
- ◆ How will case managers and data-entry staff be trained to minimize repetitive data entry or inconsistencies in interpretation?
- ◆ How will the accuracy of data be verified? Who will do this? Some HMISs have built-in queries that help detect and correct data-entry errors and omissions.
- ◆ When the information is aggregated, how will conflicting data be reconciled?
- ◆ How will adjustments be made for missing information to assure accuracy of analysis and reporting?