Chapter Two: Evaluation Framework

This chapter provides an overview of the activity categories that were evaluated. Chapter Three describes how activities were grouped and scored, and presents the results for each solution reviewed.

Functional Activities

A functional activity supports an organization's or continuum's operations, administration and compliance requirements. Eight functional areas were reviewed, each comprised of multiple activities.

Intake and Exit

Intake and exit activities refer to entering client information into the system, admitting participants into programs, and recording client discharges.

> *Client Intake:* This system feature enables caseworkers to collect client personal and demographic data as well as to document the circumstances of the client at the time of intake. Some systems combine intake with the process of creating applications and enrolling the client in a program or benefits. This activity also includes the client searching and retrieval function, which enables the caseworker conducting the client intake activity to search whether a client is already in the database, thereby avoiding duplicate data entry.

> *Exit Interview:* Designed to support the discharge process, this feature collects information on clients' immediate housing circumstances, income, and other areas. This activity can also assign a termination status to clients who leave without completing the program or without an exit interview, information that is required for the HUD Annual Progress Report.

Information and Referral

Information and referral provides timely data on the network of available services within the continuum, to determine client eligibility for services and to conduct referrals.

> *Program Eligibility:* Most systems offer limited program eligibility determination support. However, a few provide eligibility criteria to support caseworkers in the referral process or help them to determine benefit enrollment opportunities.

> *Information and Referral (service directory):* This feature includes information on organizations and programs including rules, capacity, location and other parameters. This system feature also enables documentation of referrals, whether or not the referral source is using the HMIS.

> *Recording Clients' Moves Between Agencies/Programs:* With this feature, when one agency makes a referral, the second agency can see that the referral has been made and access the client information that was shared by the first agency. Meanwhile, the first agency can track referral progress. Some systems also provide ways to send messages between staff at other organizations.

Operations

Operations activities enable agency staff to manage day-to-day activity, including bed availability, incident tracking, and accounting.

> *Bed Register:* This system feature allows caseworkers to inquire about bed availability and to manage bed assignment on a daily basis. Some systems support bed inquiries within an agency, while others support inquiries within the entire network of participating agencies (e.g., bed capacity and number of beds used). Some systems simply include a field that allows the shelter worker to enter a bed or room number, while others use bed lists to assign clients to specific beds.

> *Incident Management:* This system feature records incidents by date, type, and disposition. An incident includes any event that disrupts the life of the shelter such as a fight, a rule violation, or an emergency visit. In some solutions, incidents are associated with a specific client; in others, they are recorded at the program level. This function is not fully developed in many systems.

> *Agency Accounting:* These features, which document agency finances, can be grouped into four broad categories. First, cost utilization tools allow for the collection of unit costs (e.g., costs of service per person) and, in some solutions, facilitate the creation of consumer personal budgets and expenditures that track how much an agency contributes to that individual's budget. Second, accounting tools offer a comprehensive financial package that may include accounts receivable, general ledger information, and consumer financial history. Third, funds management tools enables recording service activity (expenditures) against specific grants. Last, donor-tracking tools provide the ability to track donor information and donation amounts.

Client Assessments

This category includes case management functions that relate to client assessments, such as needs assessment, creation of a case plan, and goal setting.

> *Needs Assessment:* This system feature collects significant amounts of data on clients' current circumstances and needs. Some systems offer a breakdown of areas in which detailed assessments can be made (e.g., employment, job training, education, and health).

> *Goal Setting:* Goal setting can link needs assessment with service planning. Some systems allow a caseworker to assign specific goals to each client from a set of pre-defined options; others allow caseworkers to enter text notes about goal setting.

> *Service/Treatment Plan:* In addition to recording client service or treatment plans, this feature allows caseworkers to update and review the progress, and issues relating to the plan. This feature is normally implemented on a time and transaction basis, matching service and treatment plan entries with corresponding transactions.

Services and Outcomes

Services and outcomes features enable caseworkers to track delivery of services, client progress, and outcomes as part of each client record.

> *Service Delivery:* This feature assigns services to particular clients, recording each time the client receives that service. Some systems allow caseworkers to change only the status of an assigned service (e.g., from "open" to "in progress"). More robust systems allow staff to record each time a

client attends a class or to automatically record the delivery of multiple services with a single client stay.

Service Tracking (internal and external): These features may include the ability to review the nature, date, and outcome of specific service transactions. Some systems use a service-tracking module; others require the use of reports or follow-up and service planning screens. Service tracking differs from service delivery by providing a mechanism to review a client's service history, while service delivery focuses on creating and updating the particular service. Systems must incorporate the service delivery feature in order to offer service tracking.

Progress Tracking: Progress tracking features allow case managers to review client progress through tools such as service plan statistics, outcomes, or some reports; others use follow-up and outcome features to support this function. While service tracking might tell users how many literacy classes the client attended, progress tracking focuses on the how far the client has actually come in becoming literate.

Outcomes Measurement: Depending on the system, outcomes can be tied to a specific service, program, goal, need, or assessment category. Some solutions only track outcomes and do not track progress. Generally only one outcome is associated with a particular assessment or service record, but multiple progress tracking entries can be made over time. Unlike progress tracking, outcomes are often recorded as standardized options (e.g., success, limited success, failure) across the HMIS, which enables the values to be aggregated across clients and programs.

Follow-Up: Solutions use different approaches to track follow-up information after clients exit the program. In some cases, the follow-up information is scattered throughout the application. The data form may store all of the housing information (client's housing history, housing progress during the program stay, and follow-up housing information) in one location, income information in another, and so forth. In other cases, the data form provides for an integrated follow-up process, such that the follow-up data are formatted like an intake screen with all of the follow-up information recorded on the same screen.

Outreach: As a specific service type, this service feature was included in the Services and Outcomes review to assess systems' ability to record outreach efforts. Some systems support this function as part of the service delivery module. Other systems offer more comprehensive outreach support including the use of wireless equipment that outreach staff can use on the street.

Reporting

Reporting functions allow the agency or continuum to generate reports from the data stored in the HMIS. Most packages offer a suite of pre-designed general reports that present information on standard administrative and information management tasks, such as services rendered, client intake, bed utilization, and rosters. Some packages also provide the ability to design custom or community-specific reports that contain data related to specific queries. The specific reporting activities (reports) reviewed in the lab evaluation were:

Aggregate Client Demographic Totals: Standard aggregate report that produces total numbers and/or percentages of clients by demographic characteristics.

Aggregate Unduplicated Count: Standard aggregate report that computes unduplicated client counts across participating agencies.

Client Intake and Exit (Length of Stay by client): Standard client-level length of stay report that details basic intake and exit data.

Services Rendered: Standard service utilization report that outlines detailed and/or aggregate service usage data by client or service type.

Bed Register Capacity Utilization: Standard agency-level report that outlines agency capacity utilization over particular time periods. This report may also produce an agency-level bed roster.

Three additional reporting activities were created to gauge the solution's overall reporting capabilities, as follows:

Wide Variety of Built-In Report: Measures whether the solution offers a wide variety of built-in reports, including but not limited to: case management, services, referrals and placement, cost and utilization, and outcomes.

Reports By Program Activity: Indicates the extent to which reports can be generated for a single program. In most cases, the wide variety of reports score and the reports by program score are very similar, since in most solutions most reports can be generated at both levels.

Custom Reports: Evaluates how a solution accommodates a community's desire to generate data outputs beyond the standard reports provided. Some HMISs include their own report generator, while others supply linkage to commonly used third-party report generators (e.g., Crystal Reports). Report generators enable users to query and extract information from the database and format the results in proper report format.

HUD Annual Progress Report (APR)

Because the ability of the system to generate the HUD Annual Progress Report (APR) is a baseline requirement for many communities, a separate evaluation category for the APR was established. This category evaluates the extent to which the report can be produced by the solution. Some solutions only produce a subset of the APR questions; others produce the complete report (in part a reflection of whether the system offers the range of functions covered by the APR). Some solutions produce the report in a one step process; others require separate steps for each question. This activity also reflects the availability of report selection variables (such as date ranges, APR report by site, program, agency, group of agencies, and all agencies), error checking features, and text add-ins.

Local System Administration

Local system administration functions enable local designated users to configure and manage the software to match operational requirements. In most solutions, these features are built into the system; however, some solution providers administer their solutions almost exclusively. In this evaluation, local system administration was approached as an aspect of software functionality. Thus, the evaluation focused on the built-in features enabling local administrators to manage their own solutions. However, solutions that are administered almost exclusively by the solution provider may be ideal for communities who do not want to be responsible for their own configuration or maintenance.

Agency Administration: These features may include the ability to set up and edit agency and program profiles, create and revoke user accounts, create and update user profiles with different access privileges, determine the approach to data sharing, and configure the system's options to

fit continuum requirements. Some systems provide an interface that allows agency administrators to perform these tasks; other systems require that the solution provider perform these tasks.

Ability to Add Data Elements: Solution providers may indicate that users can add data elements; however, this customization feature can be constrained in many ways. First, the number of additional data elements may be limited to, for instance, 10 user-defined fields. Second, system administrators may not be able to add all types of fields, such as text fields, dropdown lists, and choice lists. Third, field placement can be restricted. Some systems have a separate screen for all extra data elements; others allow users to put the new fields on any screen. Last, in some cases, only the solution provider can create fields; in others, administrators at the agency or community level can create fields. This activity does not consider the ability to locally modify data element options; this is rated separately in the Client Data Elements analysis.

Import/Export Mechanisms: Import (also known as data migration, conversion or integration) refers to the HMIS' ability to include data provided by other existing systems. The solution provider generally completes the import function at the time of initial implementation. Some systems can be customized to allow ongoing data integration. The provider's willingness and ability to support data import is discussed in Chapter Three. However, the ability to export data from the HMIS' database to files or other systems is a feature more readily included as an activity in many solutions.

System Characteristics

System characteristics represent important system-level considerations that relate to how the system can be implemented within a community. Five system areas were reviewed, each comprised of multiple elements.

<u>Data Sharing and Security</u>

Data sharing and security characteristics refer to regulation of access to sensitive information, and the ability to share data, or prohibit data sharing, among community partners. Although one of the benefits of implementing an HMIS is the ability to share client information within an agency and across a continuum, this benefit must also be balanced by the need to protect client privacy.

Ability to Share and Restrict Data Within an Agency: This characteristic allows several user accounts (agency staff) to share client data within a single agency or to restrict the access to client data with user permissions.

Ability to Share and Restrict Data Among Agencies: This characteristic refers to the ability to allow different agencies to share client data, to restrict access to only a subset of agencies/programs, to restrict access to data to a specific group of users, and/or to share only a subset of a client's data with other agencies.

System Can Encrypt the Database: Database encryption ensures secure data storage, where only authorized users can see the actual data content of client-identifier data elements (e.g., name, date of birth, other). This feature denies access to client-identified data elements to database administrators, data analysts, and unauthorized users (e.g., hackers).

System Can Encrypt Data Transmissions: Data transmission encryption ensures secure data transmission over a local or wide area network by changing letters and numbers to unintelligible characters during the transmission process.

System Handles User Authentication: User authentication provides an account and a secure means of identification for each legitimate user. This function is normally accomplished by assigning user names and passwords.

System Allows Different Levels of Permissions: This feature allows the administrator to set different user profiles (e.g., system administrator, agency administrator, case manager, staff) with varying levels of access (e.g., "view only", "update", "delete") and control over data and system functions.

System Handles Certificate Management: Some communities require HMISs to support certificate management. These detailed identifiers associate specific computers with the HMIS, and allows access only to authorized persons at workstations that hold valid certificates.

System Creates Audit Trails: This HMIS system feature allows authorized users to obtain a chronological description of the client data that has been accessed and/or edited, by whom, and when.

System Utilizes a Firewall: Some communities require the HMIS implementation to establish a firewall, a technical set-up of specialized equipment and software that monitor and restrict illicit access to the systems that hold the HMIS data and programs.

Client Data Elements

Chapter Four includes an analysis of client data elements. For this category, the review team assessed each solution's inclusion of the following standard client data elements:

- ◆ Client personal information and demographics.
- ◆ Family member information.
- ◆ Residential history.
- ◆ Medical and mental health status and history.
- ◆ Substance abuse status and history.
- ◆ Education.
- ◆ Employment history and job training information.
- ◆ Income history.
- ◆ Military information.

The review also considered the system's ability to add new community-specified data elements and to locate them logically within the system. Further, the data elements review considered the system's ability to add or modify existing values in certain data element options, for example, adding a new language to a dropdown list of language options. In some systems, nearly every list can be modified; in others, only the local administrator can maintain a select few.

Training, Service, and Support

Providers offer various amounts of training, service, and support for the HMIS application. Training can include both general training for users and special training for system administrators. Service and support can be offered via email or phone, user groups, online help and printed documentation.

Training: The training curriculum refers to the specifics of the training program content. Typical curricula include: user training, system administrator training, and system developer training. The training method describes the training delivery mechanism. Common mechanisms include: train-the-trainer, on-site training, training at headquarters, and facilitation of user groups or user forums.

Support: HMIS solution providers normally employ several vehicles to provide accurate and timely information to users. Written documentation, the set of materials that describes what the system can do and how to operate it, can include: user reference manuals, system administrator manuals, and data management and dictionary manuals. Written documentation also refers to materials that formally describe changes to the system such as enhancements or modifications to resolve previously identified problems, including: software release notes, troubleshooting guides, and bug and patch reports.

Online documentation exists in two forms. First, most systems offer a simple help mechanism embedded in the application where help text can be retrieved by topic searches while the user operates the application. Others offer a more sophisticated form of help, context sensitive help, where help text appears upon request based on the type of processing or activity that the user is conducting when help is requested. Second, online help is posted on vendor websites in the form of Frequently Asked Questions (FAQ), downloadable patches, and service packs.

Online support refers to the resources that an HMIS vendor allocates to the provision of technical support via email.

Telephone support provides a higher level of responsiveness to users than online support. In this case, the HMIS vendor allocates resources to the provision of technical support over the telephone. In-person support represents the highest level of responsiveness because a solution provider provides technical support at the user site.

Consulting Services: In addition to the standard forms of training and support, most HMIS vendors assist communities in the planning, design, and implementation processes. The most common consulting offerings include: scope definition, system configuration, system installation, overall architecture design, implementation, system customization, and data conversion and migration.

Technical Characteristics

Technical characteristics refer to solutions' technical specifications and ability to accommodate a range of implementation structures. This evaluation category includes: computer equipment; software requirements; and HMIS application, database location, and access options. The elements and options in this section are more fully defined in Chapter One.

Pricing and Total Cost of Operation

Pricing information is included as part of each solution review in Chapter Three. Each solution provider was asked to provide the current vendor published pricing structure, which is printed as reported by each vendor. Therefore, the format varies for each solution. Total Cost of Operation information is compiled in Chapter Four, as part of the comparative analysis. The total cost of operation information reflects immediate, annual, and long-term operating cost information, as supplied by the solution provider for various community scenarios. More detailed methodology on how these costs are calculated is provided in Chapter Four. In both cases, the prices were compiled at the time of system review; prices are subject to change at any time.