Chapter Three: Solution Reviews

Background

This chapter presents general product descriptions and evaluation results for each of the HMIS solutions reviewed in depth. The information was compiled from solution customer site visits, solution provider visits, and lab evaluation results. The information in this chapter represents only the core, off-the-shelf solution as it was provided to the review team. As a result of the different perspectives offered through the evaluation methods and the scope of the lab evaluation, it is possible that the numeric results may not fully reflect the written descriptions. Therefore, each solution review should be considered in its entirety.

This guide is not intended to endorse or recommend any specific solution. Since the importance of each HMIS activity and the evaluation criteria will vary by community, each community must determine its own priorities and make an informed selection based on local needs. The information is provided to assist local communities in their HMIS system selection process. All information should be verified with the provider prior to any final system selection.

The HMIS solution descriptions and evaluations in this section are listed in alphabetical order:

- AWARDS: Affordable Wide Area Relational Database System HMIS - *Foothold Technology*
- CHIRP: Computerized Homeless Information and Referral Program - *Colorado Department of Human Services*
- ClientTrack - *Data Systems International*
- C-STAR: Client Service Tracking and Reporting – *S.V.D.P. Management, Inc.*
- MAACLink - *Mid America Assistance Corporation*
- MetSYS - *MetSYS, Inc.*
- PATHWAYS COMPASS - *Pathways Community Network*
- ROSIE: Regional On-Line Services Information Exchange - *Municipal Information Systems, Inc.*
- ServicePoint - *Bowman Internet Systems*
- Social Services System - *Simplicity Computer Solutions, Inc.*
- State of Washington Homeless MIS - *State of Washington, Office of Community Development*

Each review follows the same outline:

- Company and product description.
- Solution highlights.
- Functional activity scores and results.
- Results of the system evaluation.
- Solution provider commentary.

Company and Product Description

The company and product backgrounds are based primarily on the site visit findings. The other narrative text describes findings from the vendor surveys, vendor and site visits, and lab tests. Appendix C describes the company types.

Highlights of Each Solution

This section describes notable system modules; other system features are discussed at greater length within the written analysis for each evaluation category.

Functional Activity Scores and Results

This section provides the results of the functional activity evaluation in numeric and text formats. All functional activity scores are based on the lab evaluations. The numeric lab results do not consider features or data elements that may be added through system customization. Additionally, the scores do not reflect solution modules that go beyond the testing categories, since the lab testing employed a standard evaluation protocol for all systems.

Each activity within the eight functional categories (summarized in Table 5) was scored on a zero to five scale[7] for overall impression and six additional criteria in two areas: ease of use and comprehensiveness. These scores were combined to create a Result Score for each activity. Where applicable, the level of data entry required for each activity was also evaluated and scored as low, medium, or high. The format for reporting functional activity results is provided in Figure 2, followed by a description of each of the evaluation criteria.

Table 5: Description of Functional Activities[8]

Functional Evaluation Categories	Functional Activity
Intake and Exit	Client intake and client exit activities.
Information and Referral (I&R)	Program eligibility; I&R program information; and recording clients' moves between agencies and programs.
Operations	Bed register, incident management, and agency accounting.
Client Assessments	Needs assessment, goal setting, and service/treatment plan.
Services and Outcomes	Service delivery, service tracking, progress tracking, outcome measurement, follow-up and outreach.
Reporting	Operational and program reports; built-in reports; and custom reports.
HUD APR Report	HUD's APR report.
Local System Administration	Agency administration; the ability to add data elements; and import/export mechanisms.

[7] 0 (not present in the solution reviewed); 1 (poor); 2 (fair); 3 (good); 4 (very good); and 5 (excellent). In many cases where the activity received a "0", the activity may still be able to be completed using more generic features; however, the solution does not provide an explicit method for completing the activity. For example, if the solution does not have a distinct incident tracking activity, a caseworker could still track that information in client case notes.

[8] The functional activities are described in detail in Chapter Two.

Figure 2: Sample Functional Activity Scores

Functional Activity Example	Data Entry Required	Performance	Intuitiveness	Presentation	Flow	Average Ease Of Use	Data Elements	Features	Average Comprehensiveness	Overall Impression	Result Score
		Ease of Use Scores					Comprehensiveness Scores				
Intake and Exit Category											
Client Intake Activity	x	x	x	x	x	x	x	x	x	x	x
Client Exit Activity	x	x	x	x	x	x	x	x	x	x	x

Data Entry Required: This score represents how much data entry is required in order to complete the activity. When more data entry is required, the reports are more complete and the system is more useful. However, for users doing high volume tasks, a lower level of data entry is sometimes preferable. Generally, a low level of data entry makes the system easier to use, and a high level of data entry indicates that more comprehensive data are collected, enhancing reporting capabilities.

Ease of Use: This grouping of four criteria represents how comfortable and easy the system is to learn and use.[9] Systems that are easier to use will likely require less training and support, foster quicker adoption, and deliver a more satisfying experience for the end user.

- *Performance:* Evaluates system response time and application speed.
- *Intuitiveness:* Represents how easy is it to determine and recall how to perform a particular task. It also evaluates the extent to which labels, buttons, and menus convey the task they represent. Another important aspect of intuitiveness rates whether activities conform to a standard process across the application; that is, whether the screens and steps are similar for each activity, or if each activity requires learning a new skill.
- *Presentation:* Assesses the look and feel of screens, fonts, use of white space, and appropriate use of colors.
- *Flow:* Evaluates the number of screens and clicks required to perform an action. It also considers whether there are multiple paths a user can take to a particular screen and whether the steps progress logically.
- *Average Ease of Use:* Averages the scores of performance, intuitiveness, presentation, and flow.

[9] The criteria were adapted from materials presented in *Designing the User Interface: Strategies for Effective Human-Computer Interaction*, "Questionnaire for User Interaction Satisfaction", Schneiderman, Ben.

Comprehensiveness: This grouping represents the level of robustness or sophistication of a particular function within a system. More comprehensive systems are more likely to achieve better data collection and a fuller integration of the system into an agency's operations.

- *Data Elements:* Represents the number of fields the application provides for storing information for a particular activity. Although many systems allow communities to add fields, this score refers to data elements that come with the application out-of-the-box.

- *Features.* Represents the extent to which the software provides tools, wizards, other capabilities and validations that assist the user with the activity and help to ensure accuracy.

- *Average Comprehensiveness.* This score averages Data Elements and Features.

Overall Impression: The overall impression score represents the testers' overall sense of how well the application performs the activity being evaluated.

Result Score: After each solution was evaluated based on the functional evaluation activities and evaluation criteria, results from each of the lab evaluation tests were combined to form the overall result score. The result score is the average of the average ease of use, average comprehensiveness, and overall impression scores for each functional evaluation activity. Ease of use and comprehensiveness are often competing concerns. As a solution becomes more sophisticated and incorporates more features, it often becomes more difficult to learn and use. However, well-designed systems are able to integrate complex features while maintaining user friendliness.

System Evaluation Results

This section describes the results of the review of system characteristics (summarized in Table 6). Additional system characteristics information can be found in Chapter Four.

Table 6: Description of System Characteristics[10]

System Characteristics	Description
Data Sharing and Security	Includes ability to share and restrict data; database and transmission encryption; user authentication and permissions; and audit trails.
Client Data Elements	Encompasses client demographics; family member information; residential history; medical and mental health history; education; employment history and job training information; income history; and military information.
Training, Service, and Support	Encompasses training, support, and consulting services.
Technical Characteristics	Includes computer equipment; software requirements; and HMIS application and database location, and access options.
Cost/Pricing	Represents the current vendor published pricing structure.

Solution Provider Commentary

This section presents each solution provider's comments on its solution. Comments were solicited on features not reviewed for this guide; features added or updated since the review; and in other areas. To ensure the accuracy of the information provided in this guide, each solution provider was given multiple opportunities to comment on its individual solution review.

[10] Detailed information on system characteristics is provided in Chapter Two.

AWARDS by
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Company Background

Foothold Technology, a Delaware C Corporation[11], originated as a spin-off of Community Access, a non-profit social service provider in New York. Community Access had implemented a terminal product that enabled users to access a character-based version of AWARDS. This solution was initially created as a result of a small group of providers who identified the need to automate operations and assist with Medicaid tracking and billing requirements for service provision to homeless individuals and families. In 1999, Foothold Technology was formed by an independent management team to support the migration of the character-based application to a web-based product. AWARDS (Affordable Wide-Area Relational Database System) was released as the result of that migration process. Since then, AWARDS has been expanded to include case management, operational and financial functionalities that apply to all human service agencies, particularly homeless service providers. Foothold's commitment is to allow agencies to focus on their mission by freeing them from the burdens of record keeping and reporting.

Product Background

AWARDS was developed over the course of 10 years by three large, multi-site, social service agencies in New York City. The solution is a customizable "out-of-the-box" web-based solution. Foothold Technology has expanded the product's functional capabilities to handle all aspects of HMIS, along with case management needs in other areas of social services. Users are integrated into the design process.

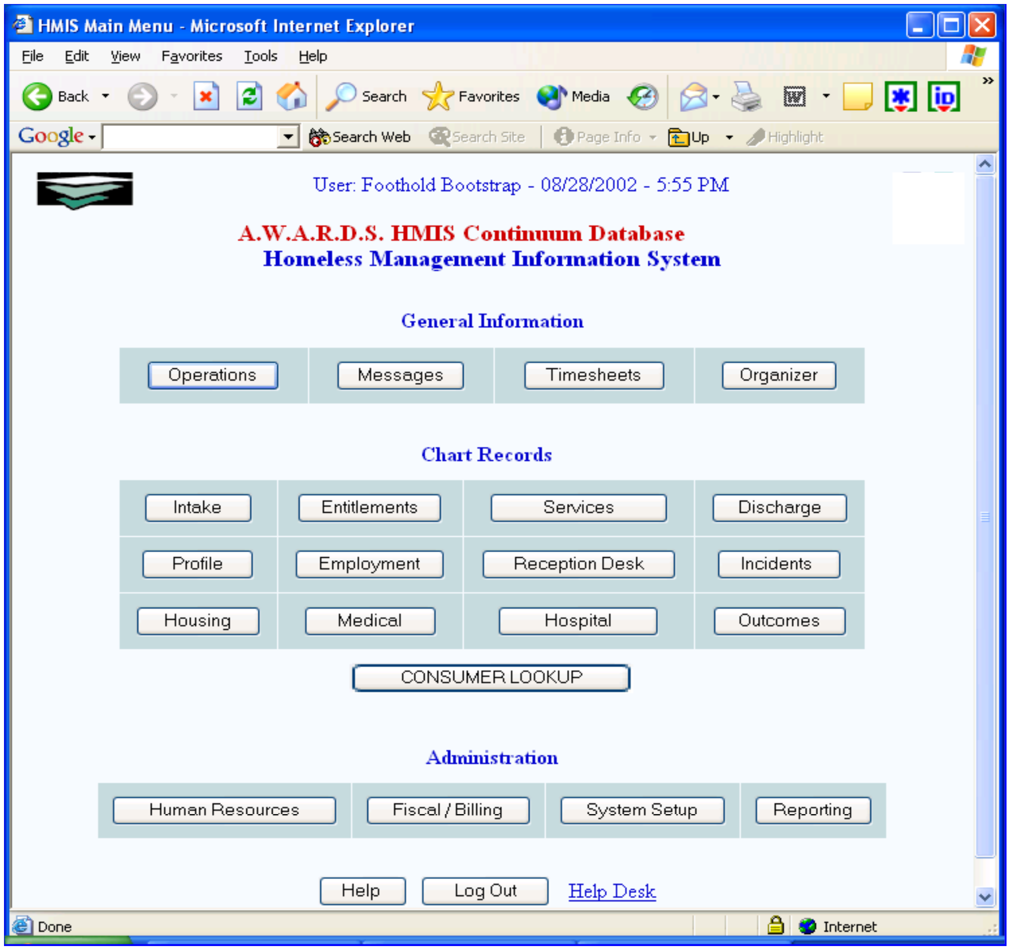
Solution Highlights

Medical Billing Component: AWARDS contains very comprehensive medical assessment, service delivery and tracking, and links service delivery with Medicaid reimbursement. For example, caseworkers' detailed service delivery notes feed directly into a system generated report that agencies can use for reimbursement from Medicaid.

Scheduling Capabilities: One key component of the AWARDS system is the ability for case managers to work directly with clients within the system to schedule appointments and group meetings. AWARDS' integrated email system automatically generates reminders for significant client events (appointments, visits, medication changes, other), intakes and discharges, vacancies and hospitalizations. It also notifies key staff when client information is altered and scans the previous day's notes for keywords such as "911", "police" and "hospital". The email system is fully integrated into the other modules in AWARDS, which can improve the flow of communication at an agency.

[11] Appendix C describes corporation types.

The graphic below is a screen shot of AWARDS' HMIS. It shows the available options under three headings: general information, chart records, and administration.



Functional Activity Results

Table 7 displays the lab evaluation scores for each of the functional evaluation activities by the evaluation criteria. The result scores reported in the last column reflect the average of the overall impression, average ease of use, and average comprehensiveness scores for each functional evaluation activity. Note that ease of use and comprehensiveness are often competing concerns, which may be blurred by only examining average results. Overall criteria averages are shown in the last row. While the category averages factor in all activities in the category, the overall criteria averages do not factor in activities when the scores are zero.

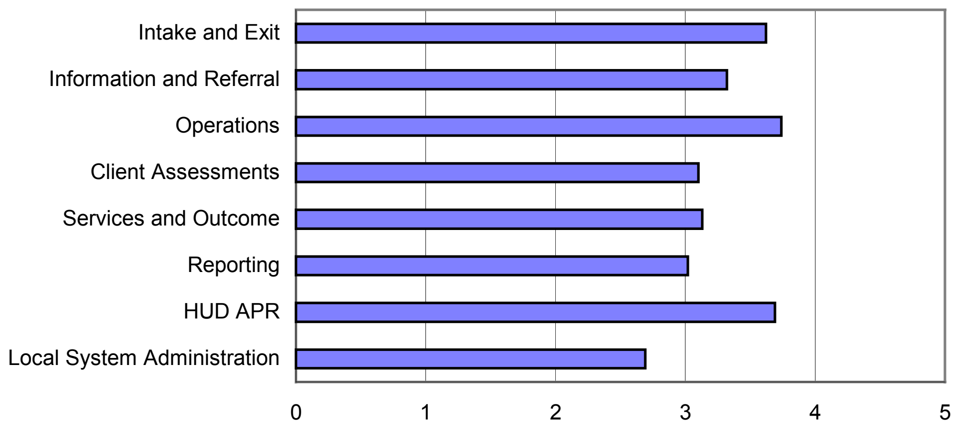
The following scale is used: 0 (not present in the solution reviewed); 1 (poor); 2 (fair); 3 (good); 4 (very good); and 5 (excellent).

Table 7: AWARDS Result Scores

Functional Activity	Data Entry Required	Performance	Intuitiveness	Presentation	Flow	Average Ease Of Use	Data Elements	Features	Average Comprehensiveness	Overall Impression	Result Score
		Ease of Use Scores					Comprehensiveness Scores				
Intake and Exit	medium	4.03	3.31	3.54	3.16	3.51	3.80	3.68	3.74	3.62	3.62
Client Intake	medium	4.00	3.50	3.71	3.38	3.65	3.54	3.40	3.47	3.80	3.64
Exit Interview	medium	4.06	3.13	3.38	2.94	3.38	4.06	3.96	4.01	3.44	3.61
Information and Referral	medium	4.02	3.17	3.77	3.29	3.56	2.94	3.00	2.97	3.42	3.32
Program Eligibility	medium	4.27	3.61	3.87	3.75	3.88	3.26	3.26	3.26	3.61	3.58
Information and Referral	medium	4.00	3.00	3.67	3.33	3.50	2.96	2.78	2.87	3.33	3.23
Recording Client Moves	medium	3.78	2.89	3.78	2.78	3.31	2.59	2.96	2.78	3.31	3.13
Operations	medium	3.88	3.48	3.73	3.67	3.69	4.04	3.84	3.94	3.58	3.74
Agency Accounting	high	4.00	4.00	4.00	4.00	4.00	5.00	5.00	5.00	5.00	4.67
Bed Register	low	3.90	3.43	3.43	3.25	3.50	2.54	2.78	2.66	3.24	3.13
Incident Management	medium	3.75	3.00	3.75	3.75	3.56	4.58	3.75	4.17	2.50	3.41
Client Assessments	medium	3.79	3.03	3.58	2.87	3.31	2.77	3.11	2.94	3.04	3.10
Needs Assessment	medium	3.69	3.23	3.54	2.77	3.31	2.95	3.46	3.21	3.23	3.25
Goal Setting	medium	3.88	2.88	3.75	3.00	3.38	2.25	2.71	2.48	2.75	2.87
Service/Treatment Plan	medium	3.79	2.97	3.45	2.84	3.26	3.11	3.16	3.14	3.13	3.18
Services and Outcomes	medium	3.81	3.05	3.20	2.75	3.20	3.13	3.20	3.16	3.04	3.13
Service Delivery	medium	3.83	2.75	3.42	2.67	3.17	3.47	3.33	3.40	3.33	3.30
Services Tracking	medium	4.00	3.20	3.20	2.40	3.20	3.33	3.33	3.33	3.20	3.24
Outreach	low	3.00	3.00	3.00	3.00	3.00	1.67	1.67	1.67	2.00	2.22
Progress Tracking	medium	4.00	3.00	3.00	2.60	3.15	3.67	3.67	3.67	3.20	3.34
Outcomes Measurement	medium	4.00	3.20	3.00	3.00	3.30	4.00	4.33	4.17	3.20	3.56
Follow-Up	medium	4.00	3.14	3.57	2.86	3.39	2.62	2.86	2.74	3.29	3.14
Reporting	medium	3.38	3.00	3.25	2.50	3.03	3.13	2.92	3.02	3.00	3.02
Client Demographics	medium	4.00	4.00	4.00	3.00	3.75	5.00	3.33	4.17	4.00	3.97
Aggregate Unduplicated	medium	4.00	2.00	4.00	2.00	3.00	3.33	3.33	3.33	2.00	2.78
Client Intake & Exit	medium	4.00	3.00	4.00	2.00	3.25	3.33	3.33	3.33	3.00	3.19
Services Rendered	medium	4.00	3.00	4.00	2.00	3.25	3.33	3.33	3.33	3.00	3.19
Bed Register Capacity	medium	4.00	4.00	3.00	3.00	3.50	3.33	3.33	3.33	4.00	3.61
Variety of Built-in Reports	medium	3.50	4.00	3.50	4.00	3.75	3.33	3.33	3.33	4.00	3.69
Reports by Program	medium	3.50	4.00	3.50	4.00	3.75	3.33	3.33	3.33	4.00	3.69
Custom Reports	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HUD APR	low	4.00	4.00	4.00	3.00	3.75	3.33	3.33	3.33	4.00	3.69
Local System Administration	low	3.00	3.00	2.33	3.00	2.83	2.22	2.22	2.22	3.00	2.69
Agency Administration	medium	4.00	4.00	3.00	4.00	3.75	3.33	3.33	3.33	4.00	3.69
Ability to Add Data Elements	low	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	2.00	1.56
Export Mechanisms	low	4.00	4.00	3.00	4.00	3.75	1.67	1.67	1.67	3.00	2.81
Average Results for Criteria	medium	3.78	3.25	3.45	3.01	3.37	3.24	3.21	3.22	3.31	3.30

The result score for each functional evaluation category is graphed in Figure 3. The average ease of use and comprehensiveness scores for all functional activities are graphed in Figure 4.

Figure 3: AWARDS Functional Activity Scores By Category



Bar graph displaying levels for the following categories: Intake and Exit; Information and Referral; Operations; Client Assessments; Services and Outcomes; Reporting; HUD APR; and Local System Administration.

Intake and Exit: AWARDS has a multi-step intake process including referral, process intake, and admission. Program intake is based upon referrals documented from other provider agencies. Intake and admission information includes primary demographic fields. Consumers who are “turned away” can be documented. The process of linking household members’ records is cumbersome. Exit information is comprehensive, including the ability to provide detailed information on a client’s discharge status from programs. Exit information is linked directly with aftercare follow-up services including program referrals and client status post discharge.

Information and Referral: AWARDS does not contain a centralized information and referral database of services. However, through the discharge planning process, referrals to, or from outside agencies can be documented and tracked. Additionally, AWARDS handles referrals within the continuum through the messages module.

Operations: AWARDS offers several agency operations features beyond the standard activities that were tested in the lab evaluation. For instance, the solution contains a human resource component that gives agencies the functionality of staff scheduling, payroll status, organization chart, salary history, and credentials. Agency accounting features include the ability to track accounts payable and receivable, and the ability to administer a general ledger. Reports and statistics can be generated monthly, weekly, or yearly for billing information.

The system was designed to flexibly track client utilization of beds and/or housing units. When individuals are associated with a household, they will automatically be registered to the same housing unit as the head of household upon registration. A comprehensive service history, including shelter and transitional housing placements, is accessible for each client or household.

AWARDS also contains the ability to document incidents on an organizational basis. Incident data elements include type of incident, individuals involved, and witnesses. The data are not linked directly to client records.

Client Assessments: AWARDS captures comprehensive assessments of income and entitlements; employment; education; and medical data over time. It captures minimal snapshot information about prior residential history and military status.

Services and Outcomes: AWARDS has the capability of linking needs, goals, and action plans for each client's service delivery plan. During the agency site visits, team members learned that agencies use this information to document reporting compliance for Medicaid reimbursement. Program participation can be documented and linked directly with each client's record.

Reporting: For each data entry activity, a user can choose to report at the client, service, program, or agency level. Case managers reported printing out client assessment and service delivery reports for inclusion in client case files. General reporting categories include services rendered, census, shelter placement, bed register capacity and vacancies, housing history, and outcomes. Client level data from certain reports can be exported into Excel for further analysis.

HUD Annual Progress Report (APR): AWARDS includes an APR report prompt that automatically generates the demographic characteristics and changes in client income over time, as well as exit information required for the APR. The APR goals and outcomes information is recorded in the service plans for individual consumers and financial information is tracked in the Accounting modules.

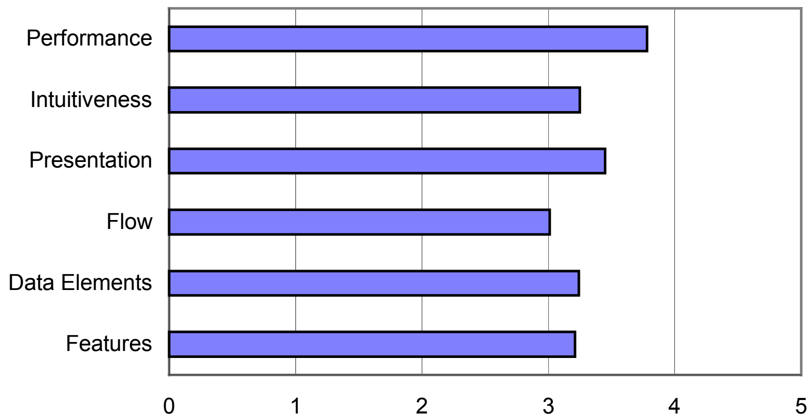
Local System Administration: Foothold staff will typically perform the initial setup and configuration of the system for local implementations. Local system administration features include agency and program information, user accounts and passwords, and residential bed units. AWARDS does not offer users the flexibility to add additional data elements without assistance of Foothold staff.

Evaluation Criteria Results

Ease of Use: AWARDS' ease of use is compromised by having many screens and lab testers identified difficulty with the logical flow. Without training, a user would find it difficult to navigate throughout the system. Performance was strong in all testing environments; AWARDS demonstrated a reasonable response time with a dial up modem.

Comprehensiveness: AWARDS tracks extensive demographic, education, employment, and medical/health data elements. The health-related modules are particularly robust and are comprehensive enough to support Medicaid billing. It also includes comprehensive operational modules for the organization, such as housing maintenance and human resources. AWARDS captures more limited data on income, residential history, and military status.

Figure 4: AWARDS Average Ease of Use and Comprehensiveness Scores



Bar graph displaying results for the following categories: Performance, Intuitiveness, Presentation, Flow, Data Elements, and Features.

System Evaluation Results

Data Sharing and Security: AWARDS is developed to share client level data between agencies. Clients can be referred from one agency to another electronically and each agency has the ability to add service information specific to their program. User names and passwords are grouped according to permission access. Local system administrators can set the amount of time the system is allowed to be idle before requiring the user to log back into the system. Another security feature within AWARDS is that caseworkers are only allowed a specified time frame (e.g., 10 days) to make changes to any client record. Beyond that time, a supervisor must unlock a client record in order for the case manager to update that client record.

Data is transmitted to the centralized database via 128-bit encryption and all transactions are recorded. AWARDS data is stored in a secure data center. AWARDS can also handle certificate management from Verisign/Thawte.

Training, Service, and Support: AWARDS contains an online help manual that is accessible from any screen and brings up help information relevant to that screen. There is also a link to an email help desk from every screen. User and system administrator documentation is available. Foothold implements a train-the-trainer model and utilizes consultants on an as needed basis for additional training. The help desk has been found to be very useful and responsive to the needs of users during regular business hours.

Technical Requirements and Specifications: Foothold's AWARDS is an Application Service Provider (ASP) application hosted by the provider in a secure off site location. The application server utilizes proprietary code with a ProgressRDMS database. The system requires that users be connected to the Internet. The type of connection is important, though dial up modems were reported as having relatively good response time. Speed noticeably increased with faster connections as recommended by Foothold Technology. Although data migration or integration with other systems is generally discouraged, communities interested in these options should contact Foothold directly.

Server Configuration		
☒ ASP	☒ Licensing	☐ Other

Server(s)	Server/operating environment provided by Foothold in a secure data center with firewall and intrusion detection.
Operating System	
Storage	
Server-side Bandwidth Connection	
Security	

Recommended Minimum Agency Hardware Requirements	
User PC:	PII 300, 64 MB RAM
Operating System:	Any with a web browser
User Internet Connection:	DSL/Cable
Network Architecture and Components:	TCP/IP

Pricing: Foothold's AWARDS pricing is based on a monthly fee structure calculated by the number of concurrent user licenses determined in the contract. The monthly fee includes 10 hours of technical support each month. Discounts are available for quarterly or annual payment in advance. Foothold also offers a licensed model of the AWARDS solution.

There is a one-time, start-up fee that includes 20 hours of customization-related consulting as well as training sessions for both basic users and advanced users that will provide front-line technical support in the train-the-trainer model. Additional consulting, training, and technical support are available for a flat fee.

Rate Card:[12]

One-time Start-up Fee: $5,000

	Up to 50 Concurrent Users	51-75 Concurrent Users	76-100 Concurrent Users	101-125 Concurrent Users
Monthly Fee	$2,000	$3,000	$3,500	$4,000

Additional Fees:

Training	$1,000 per day (includes two sessions)
Consulting	$1,000 per 10 hours
Technical Support	$1,000 per 10 hours

[12] Note: Prices listed were compiled in preparation for the publication of this report. Prices are subject to change at any time. Chapter Four includes comparative cost of operation information.

Additional Considerations

Field visits found that the system was fully integrated into the operations of the organizations visited. These organizations utilized the system in every aspect of their business process from receiving referrals to documenting eligibility and service utilization, to human resources management. The system is particularly well suited to agencies desiring a complete organizational solution that handles everything from client tracking to agency operations, and scheduling and billing. The system may also be appropriate for communities seeking a modular system to accommodate specific functions (e.g., client census or email/communications).

Solution Provider Commentary

AWARDS offers many modules and capabilities that were not reviewed in the lab evaluation:

Employment and Training: AWARDS has a complete employment and training module created in partnership with the Rockefeller Foundation and designed with input from several agencies specifically to track individuals as they participate in employment programs.

Service Plans: AWARDS' Service Plans can be linked to progress notes and are fully integrated into the system. This allows tracking of the APR performance measure outcomes data, among other items.

Staff Information: This module allows agencies to track substantial staff information and perform numerous human resources functions.

Accounting Module: AWARDS has an accounting and billing module that allows agencies to track their reimbursable services in an Accounts Receivable and General Ledger section and bill against those services.

Property Maintenance: AWARDS contains an extensive property maintenance module that tracks building repairs and painting schedules in addition to check requests and requisitions.

Organizer Module: AWARDS has a full-fledged contacts management and scheduling module for setting agency-wide/ continuum-wide meetings. That module is linked automatically to the email module for ease of communication.

Charting Timetable: This feature allows staff to set important dates, such as service plan reviews and doctors' appointments for the consumers with whom they work.

Data Security and Sharing: In addition to the features mentioned, AWARDS has a complete disaster recovery plan that includes an off-site backup data center that makes several daily copies of all agency data.

Changes Since the Review:

Reporting: The AWARDS report-writer is built into the system and reports are often located in logical places throughout the application rather than all in one place. AWARDS has literally hundreds of reports available to the user. Additionally, a more traditional reporting utility is presently being tested for deployment.

Veterans status and residential history: The data elements required to track fully residential history and veterans status are few in number and as a result of this review, we have added them to AWARDS.

Additional Background:

Ease of Use: Along with AWARDS users, Foothold Technology chose to add more screens with less information on each screen to prevent overwhelming the user. This avoids scrolling through very long pages and enables users to display data elements more easily on small monitors. Less information on each screen, of course, requires more screens for each process. While we're always working on the elegance of the product, the end users themselves made most of these screen-flow decisions and report high levels of satisfaction and ease of use.

Customers do not have to use all aspects of AWARDS in order to benefit from the system. In fact, customers generally start by using only certain pieces of it and grow into the full system over time.

CHIRP by
Colorado Department of Human Services

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Company Background

The Colorado Department of Human Services, Supportive Housing and Homeless Programs developed the Computerized Homeless Information and Referral Program (CHIRP). The product is available to any community at no cost; however, CHIRP is only supported for agencies within Colorado.

Product Background

Development of CHIRP began in 1995 with the implementation of an information and referral bulletin board, and intake and reporting software to support the Denver continuum. Plans for further development are limited to Colorado-based initiatives, although customizations implemented by other communities are encouraged and considered for incorporation into the existing application. The product is shareware software and is available free.

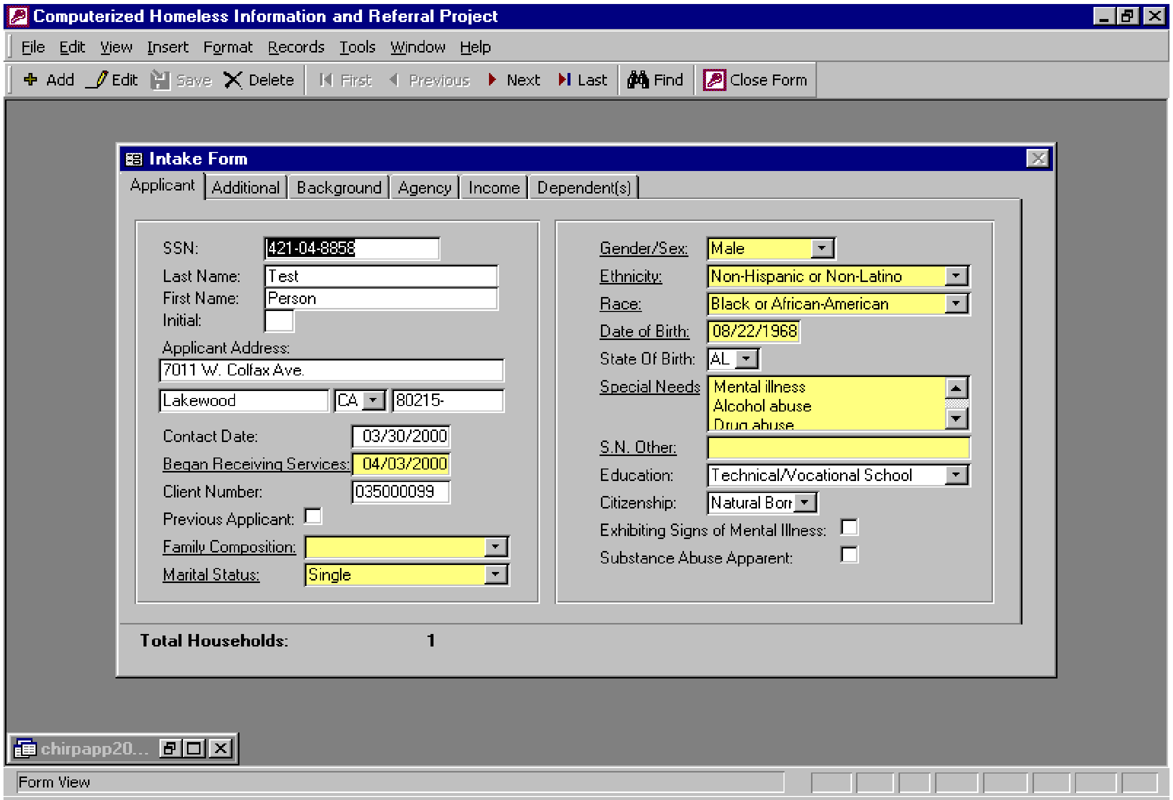
Solution Highlights

Intake: Intake is fast and easy, and requires minimal information to check in a client. The system structures the intake process through the use of pull down menus with predefined options.

HUD APR and Custom Reports: CHIRP has the ability to generate responses to the majority of the APR questions. The report is easy to run. The print-out is user friendly and looks almost identical to the HUD APR format. CHIRP does not include responses for overall program goals, supportive services, bed utilization, and funding related questions because the information is not recorded in the system.

In addition, CHIRP has extensive custom reporting capabilities including the ability to report on client counts or lists of clients. Information can be customized by date, demographics, and client assessment information.

The following graphic is a screen shot of CHIRP's HMIS, specifically the intake form which includes a range of information on the client served including name, address, and other information.



Functional Activity Results

Table 8 displays the lab evaluation scores for each of the functional evaluation activities by the evaluation criteria. The result scores reported in the last column reflect the average of the overall impression, average ease of use, and average comprehensiveness scores for each functional evaluation activity. Note that ease of use and comprehensiveness are often competing concerns, which may be blurred by only examining average results. Overall criteria averages are shown in the last row. While the category averages factor in all activities in the category, the overall criteria averages do not factor in activities when the scores are zero.

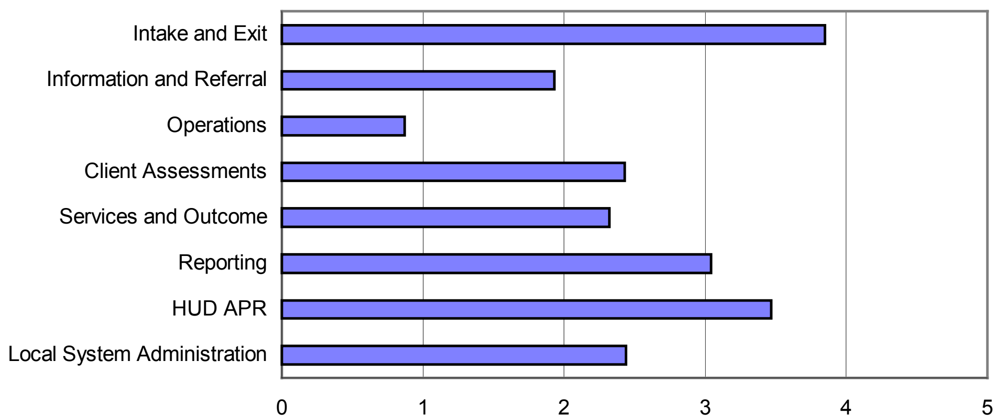
The following scale is used: 0 (not present in the solution reviewed); 1(poor); 2 (fair); 3 (good); 4 (very good); and 5 (excellent).

Table 8: CHIRP Result Scores

Functional Activity	Data Entry Required	Performance	Intuitiveness	Presentation	Flow	Average Ease Of Use	Data Elements	Features	Average Comprehensiveness	Overall Impression	Result Score
		Ease of Use Scores					Comprehensiveness Scores				
Intake and Exit	medium	3.94	4.35	3.80	4.00	4.02	3.33	3.44	3.38	4.15	3.85
Client Intake	medium	3.95	4.36	3.77	4.00	4.02	3.18	3.41	3.30	4.13	3.82
Exit Interview	medium	3.92	4.33	3.83	4.00	4.02	3.47	3.47	3.47	4.17	3.89
Information and Referral	low	2.67	2.52	2.67	2.67	2.63	1.67	1.64	1.65	1.52	1.93
Program Eligibility	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Information and Referral	low	4.00	4.00	4.00	4.00	4.00	2.50	2.41	2.45	2.11	2.85
Recording Client Moves	medium	4.00	3.57	4.00	4.00	3.89	2.50	2.50	2.50	2.45	2.95
Operations	low	1.14	1.02	1.20	1.14	1.13	0.75	0.79	0.77	0.71	0.87
Agency Accounting	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bed Register	low	3.43	3.07	3.61	3.43	3.39	2.26	2.36	2.31	2.13	2.61
Incident Management	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Client Assessments	low	2.58	2.96	2.59	2.66	2.70	1.95	1.88	1.91	2.67	2.43
Needs Assessment	medium	3.92	4.58	3.92	3.92	4.08	3.06	2.78	2.92	4.25	3.75
Goal Setting	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Service/Treatment Plan	medium	3.82	4.29	3.86	4.07	4.01	2.80	2.86	2.83	3.75	3.53
Services and Outcomes	low	2.70	2.74	2.37	2.69	2.63	2.24	2.00	2.12	2.23	2.32
Service Delivery	medium	4.00	4.00	4.00	4.00	4.00	3.33	3.33	3.33	3.00	3.44
Services Tracking	medium	3.50	4.00	3.50	4.00	3.75	2.50	2.50	2.50	2.50	2.92
Outreach	medium	5.00	4.00	3.00	4.00	4.00	3.33	3.33	3.33	4.00	3.78
Progress Tracking	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Outcomes Measurement	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Follow-Up	medium	3.71	4.43	3.71	4.14	4.00	4.29	2.86	3.57	3.86	3.81
Reporting	low	3.38	3.25	2.81	3.38	3.20	2.81	3.02	2.92	3.00	3.04
Client Demographics	low	4.00	3.00	3.00	4.00	3.50	3.33	3.33	3.33	3.00	3.28
Aggregate Unduplicated	low	4.00	4.00	3.00	4.00	3.75	3.33	3.33	3.33	4.00	3.69
Client Intake & Exit	low	4.00	4.00	3.00	4.00	3.75	3.33	3.33	3.33	3.00	3.36
Services Rendered	low	4.00	4.00	3.00	4.00	3.75	1.67	1.67	1.67	3.00	2.81
Bed Register Capacity	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variety of Built-in Reports	medium	3.50	3.50	3.50	3.50	3.50	3.33	4.17	3.75	3.50	3.58
Reports by Program	medium	3.50	3.50	3.50	3.50	3.50	3.33	4.17	3.75	3.50	3.58
Custom Reports	medium	4.00	4.00	3.50	4.00	3.88	4.17	4.17	4.17	4.00	4.01
HUD APR	low	4.00	5.00	5.00	5.00	4.75	1.67	1.67	1.67	4.00	3.47
Local System Administration	medium	2.67	2.67	3.33	3.67	3.08	2.22	2.22	2.22	2.00	2.44
Agency Administration	medium	2.00	3.00	3.00	3.00	2.75	1.67	1.67	1.67	2.00	2.14
Ability to Add Data Elements	low	4.00	3.00	3.00	4.00	3.50	1.67	1.67	1.67	2.00	2.39
Export Mechanisms	medium	2.00	2.00	4.00	4.00	3.00	3.33	3.33	3.33	2.00	2.78
Average Results for Criteria	medium	3.74	3.80	3.58	3.93	3.76	2.91	2.92	2.92	3.20	3.29

The result score for each functional evaluation category is graphed in Figure 5. The average ease of use and comprehensiveness scores for all functional activities are graphed in Figure 6.

Figure 5: CHIRP Functional Activity Scores By Category



Bar graph displaying levels for the following categories: Intake and Exit; Information and Referral; Operations; Client Assessments; Services and Outcome; Reporting; HUD APR; and Local System Administration.

Intake and Exit: CHIRP intake captures relevant information including identification, demographic, race, ethnicity, immigration status, and special needs on a single screen. Additional intake information, such as last permanent address, education, languages, and comprehensive veteran status, can be entered on a separate tab directly accessible from the main intake screen. Household members can be easily added to the head of household's record. Exit is equally fast and easy, and includes date of departure, reason for leaving, and destination. In addition, a caseworker can update employment status, income sources and level, as well as education and skills. However, none of this information is required, which may result in inconsistencies in data from caseworker to caseworker. The client retrieval process is not fully intuitive. Users in the lab and the agency visit had difficulty searching for clients.

Information and Referral: CHIRP includes a reference list of agencies and programs within a community, but does not include related eligibility information. Multiple services can be identified for a client, although the system can only generate a single referral.

Operations: CHIRP includes a field for identifying the assignment of a client to a bed or housing unit; however, the function is not connected to a register and does not monitor capacity. In addition, there is no mechanism to avoid assigning two or more clients or families to the same bed or housing unit. CHIRP does not include capabilities for agency accounting or incident management.

Client Assessments: CHIRP captures limited assessment-related information both at intake and during case management including income, education, and skills. Reasons for needs are identified within each section. Data fields are either text boxes, pull down menus, or check boxes. Client status is not captured over time aside from intake, exit, and follow-up. Needs and goals are not specifically identified; however, caseworkers can include this information as a case note.

Services and Outcomes: Service delivery is recorded at the program-level; however, actual dates and descriptions of service delivery are not captured except in case notes. Progress and outcomes are also not captured outside of the case notes section and, therefore, are not linked to other information. The follow-up screen closely resembles the exit form allowing caseworkers to update employment status, income sources and level, as well as education and skills. Outreach capabilities include the capture of basic demographics, location of contact, client condition, and referrals made.

Reporting: CHIRP has several basic reports including both aggregate and client level information. Reports are primarily client summary information. See the Solution Highlights section for details on Custom Reporting.

HUD Annual Progress Report (APR): See the Solution Highlights section for details.

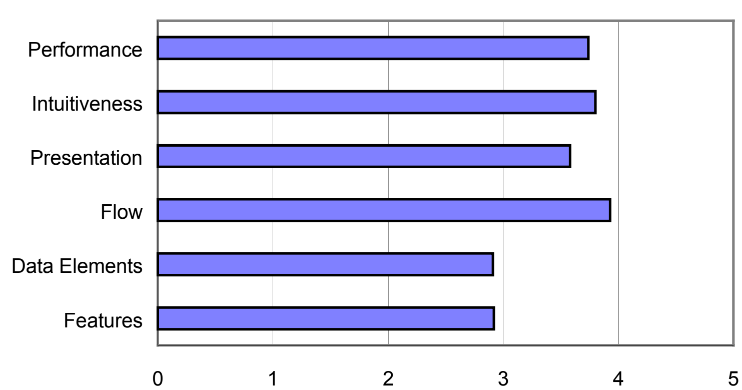
Local System Administration: CHIRP has limited system administration capabilities including the addition and maintenance of user accounts and permissions, and the definition of user defined fields. In addition, the system administrator can specifically determine the screens accessible within the system. This is useful if an agency wants only to automate certain functions and does not want to have screens available that will not be used. Most dropdown menus cannot be defined or edited from the administration screen. It should be noted, however, that general system functionality, field length, field options, look and feel, pull down menu options, and user accounts can be defined or customized directly within Microsoft Access.

Evaluation Criteria Results

Ease of Use: CHIRP is relatively intuitive for users to navigate and use. However, system administration and installation require knowledge of Microsoft Access, and general systems IT and networking. Performance is fast when a single caseworker uses the system with limited records. Performance is noticeably slower with multiple concurrent users and/or a large data set due to the limitations of Microsoft Access.

Comprehensiveness: Minimal data elements are required at each stage making data entry quick but posing a problem for data quality. CHIRP features are basic in nature and are primarily used for historical record keeping of APR-related information. In fact, the agencies visited in the field primarily used CHIRP for gathering demographic information to simplify the APR reporting process.

Figure 6: CHIRP Average Ease of Use and Comprehensiveness Scores



The bar graph above displays results for the following categories: Performance, Intuitiveness, Presentation, Flow, Data Elements, and Features.

System Evaluation Results

Data Sharing and Security: CHIRP was established as a stand-alone system for a single agency. Therefore, the system does not currently handle data sharing between agencies. However, aggregated de-identified reports can be created if multiple agencies export client information and send it to a central agency in a continuum. The central agency has to administer a separate database for this purpose and establish protocols for the data transfers. An agency can set up multiple programs and share client-level data between programs; however, information cannot be restricted. In other words, all client information is visible to all caseworkers using the system.

The permission structure includes two groups: user and administrator. The user permissions are relatively flexible allowing restriction or access to be defined on a screen-by-screen basis. CHIRP is not web-enabled and, therefore, does not require data transmission encryption.

Training, Service, and Support: CHIRP is shareware software and, as such, does not include training, service, or support to agencies outside the State of Colorado. To effectively implement and operate CHIRP (outside Colorado) an agency should be knowledgeable in Microsoft Access and Visual Basic as well as general system administration and IT. In addition, the agency or community should plan for the creation and delivery of training materials themselves, as well as full system support by staff members.

Technical Requirements and Specifications: CHIRP uses Microsoft Access for both the Windows client and the database. It is available in Access 97 and Access 2000. Although, by default, it runs as a stand-alone solution, the client and the database exist as separate files. Thus, the system can be configured to run on a LAN, as a two-tier solution. However, Microsoft Access limits the number of concurrent users. To run on a network, each CHIRP workstation will need a copy of Access client installed. The system is not intended to be run over the Internet. Speed is noticeably affected by the number of concurrent users and the amount of data in the database due to the limitations of Microsoft Access. If data migration of historical records is a requirement, the agency will need to perform the necessary activities.

Server Configuration		
☐ ASP	☐ Licensing	☒ Other
Server(s)	CHIRP is a stand-alone product and does not utilize a server.	
Operating System		
Storage		
Server-side Bandwidth Connection		
Security		

Recommended Minimum Agency Hardware Requirements	
User PC:	Pentium
Operating System:	Any operating system that can run MS Office 97 or 2000
User Internet Connection:	N/A
Network Architecture and Components:	N/A

Pricing: The CHIRP solution is available as shareware for free. Although there are no acquisition costs, CHIRP requires significant implementation resources including costs associated with software installation, administration and maintenance, technical support, training, and documentation. Additional resources will also be required for data integration and analysis.

Additional Considerations

Agencies considering the implementation of CHIRP should recognize the requirement for self-administration and maintenance, as well as the current lack of ability to scale. The system is for single agency implementations only and the agency will need to have an individual that is knowledge in Microsoft Access, and general IT and networking. In addition, the system administrator will need to manage the agency's data backups and general server administration. Because no support or training is offered and only limited documentation is available, these functions will need to be managed by the agency.

The CHIRP system is designed, distributed, and maintained by program staff rather than professional software developers. Stability of the system has been an issue in the past, and may continue to be an issue in future versions. This is due to several factors including limited budget and staff for testing, and the fact that it is built in Microsoft Access. These problems may be mitigated for Colorado agencies by the extensive support offered locally.

Solution Provider Commentary

General Feedback:

Local System Administration: Lists of landlords and organizations are generated from user definitions in the setup section.

Data Sharing and Security: CHIRP does limit the screens that can be viewed, therefore somewhat limiting the client information that can be accessed. For example, administrators can restrict a user group so that they can see intake but not assessment, discharge, or follow-up. Record-level security will be incorporated in a future release.

Training, Service, and Support: CHIRP staff at the Colorado Department of Human Services support agencies within Colorado using the software. This support includes regular trainings, technical assistance by phone, via email, or in person, and maintenance of the aggregation database for the continuum.

Recent Upgrades:

Intake and Exit: The latest upgrade to CHIRP has included changes to address difficulties in searching for clients.

Technical Requirements and Specifications: The software can now be used with Access 2002 by modifying the installation procedure and converting the database. CHIRP is currently exploring the use of its software on a Citrix platform in Colorado communities.

Planned Enhancements:

Operations: CHIRP is currently working on an upgrade to significantly enhance its bed registry functions.

ClientTrack by
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Company Background

Data Systems International (DSI), a Utah C-corporation[13], was founded in 1983. In the early 1990s, DSI's primary focus was the creation and development of software for medical billing and case management. This original development was the basis for what is now ClientTrack. In 1998, the company's focus was redirected to pursue and develop case management software solutions for government and other agencies using Federal and state funds appropriated through the McKinney-Vento, Workforce Investment Act (WIA), and Welfare to Work (WTW) Acts.

Product Background

ClientTrack was born out of the need to provide community-wide case management solutions and support to government and social service providers. ClientTrack is designed with the premise that case management is the foundation of all program specific functionality. With this foundation, other supplemental applications are currently available, including Homeless, WIA, and WTW. In the case management area, solutions include programs such as Drug and Alcohol, Youth, and Adult Protective Services. With all of these functional areas, reporting and measuring outcomes are critical components, as well as strong system security. ClientTrack was developed as a modular system; the different components have been engineered to work separately or together.

Solution Highlights

Quick Entry Intake Wizard: Quick entry is a feature that allows intake to be conducted in a thorough manner. The organization of information is well laid out in a set-by-step process and covers the majority of information relevant to transitional clients.

Funding Source Management: ClientTrack helps agencies to closely manage the funding associated with client service delivery. Each client is added under a grant and can only receive services available under that grant, except those that are specifically designated as universal services. Numerous reports also track the status of grant applications, enrollments, and services delivered.

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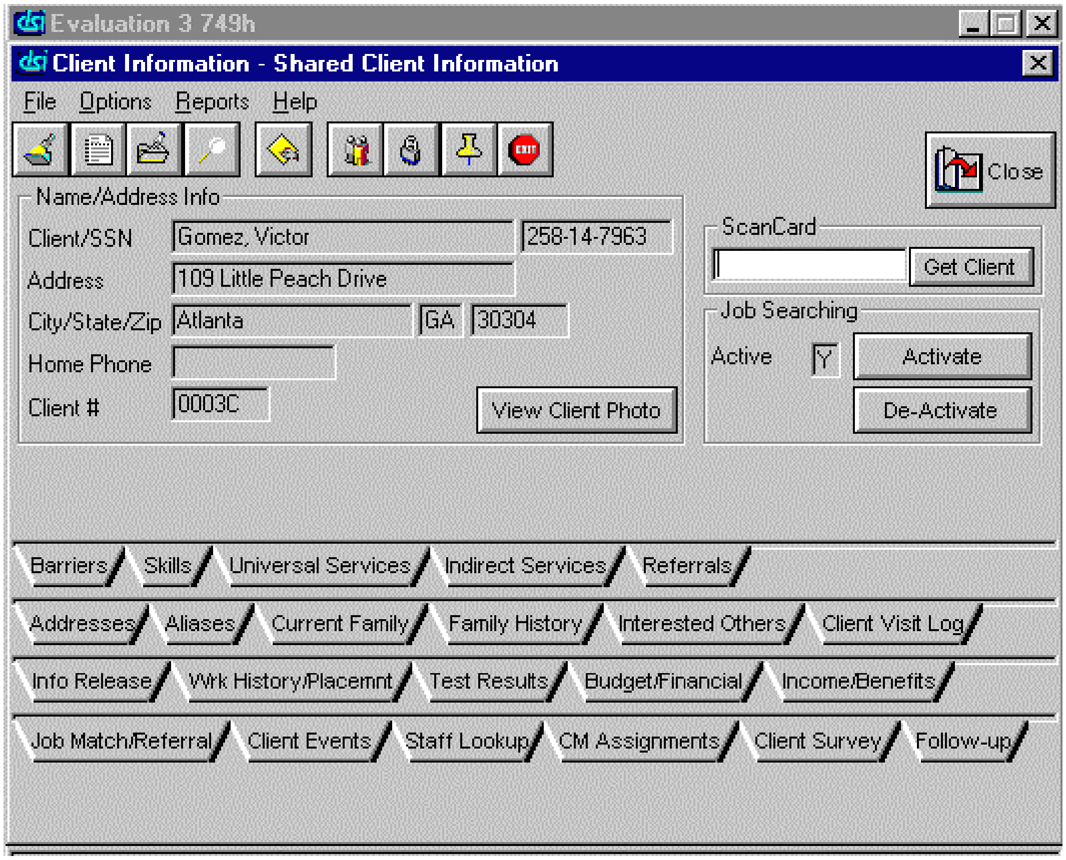
[13] Appendix C describes corporation types.

The graphic below is a screen shot of ClientTrack's HMIS, specifically client information.



Functional Activity Results

Table 9 displays the lab evaluation scores for each of the functional evaluation activities by the evaluation criteria. The result scores reported in the last column reflect the average of the overall impression, average ease of use, and average comprehensiveness scores for each functional evaluation activity. Note that ease of use and comprehensiveness are often competing concerns, which may be blurred by only examining average results. Overall criteria averages are shown in the last row. While the category averages factor in all activities in the category, the overall criteria averages do not factor in activities when the scores are zero.

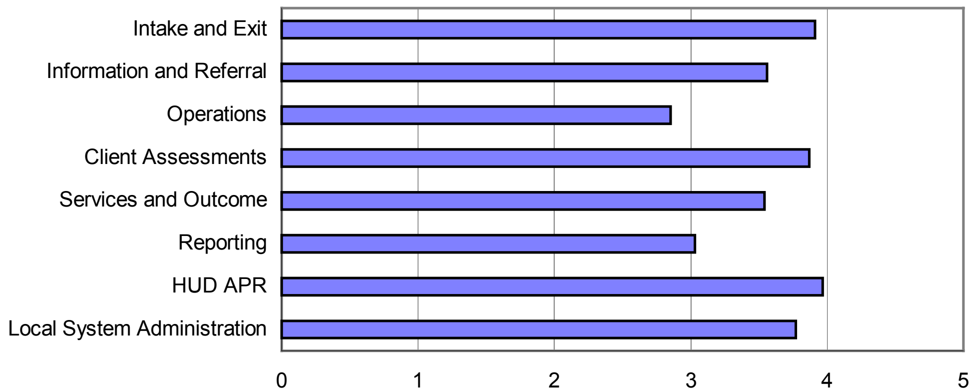
The following scale is used: 0 (not present in the solution reviewed); 1 (poor); 2 (fair); 3 (good); 4 (very good); and 5 (excellent).

Table 9: ClientTrack Result Scores

Activity	Data Entry Required	Performance	Intuitiveness	Presentation	Flow	Average Ease Of Use	Data Elements	Features	Average Comprehensiveness	Overall Impression	Result Score
		Ease of Use Scores					Comprehensiveness Scores				
Intake and Exit	medium	3.86	3.78	3.93	3.74	3.83	3.67	3.93	3.80	4.11	3.91
Client Intake	medium	3.79	4.21	4.08	3.83	3.98	4.24	4.17	4.20	4.29	4.16
Exit Interview	medium	3.93	3.36	3.79	3.64	3.68	3.10	3.69	3.39	3.93	3.67
Information and Referral	medium	3.95	3.84	3.86	3.85	3.88	3.26	3.35	3.30	3.50	3.56
Program Eligibility	medium	4.00	3.86	3.71	3.71	3.82	2.86	2.86	2.86	2.78	3.15
Information and Referral	medium	3.94	4.13	3.88	3.94	3.97	3.44	3.85	3.65	4.19	3.93
Recording Client Moves	medium	3.91	3.55	4.00	3.91	3.84	3.48	3.33	3.41	3.54	3.60
Operations	medium	2.58	2.20	2.67	2.97	2.60	2.92	3.03	2.97	2.98	2.85
Agency Accounting	high	4.00	3.00	4.00	5.00	4.00	5.00	5.00	5.00	5.00	4.67
Bed Register	medium	3.75	3.60	4.00	3.90	3.81	3.75	4.08	3.92	3.95	3.89
Incident Management	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Client Assessments	medium	3.89	3.83	3.71	3.69	3.78	3.78	4.07	3.93	3.91	3.87
Needs Assessment	medium	3.85	4.23	4.15	4.00	4.06	3.85	4.23	4.04	4.38	4.16
Goal Setting	medium	4.00	3.43	3.00	3.36	3.45	3.33	3.81	3.57	3.18	3.40
Service/Treatment Plan	medium	3.82	3.84	3.97	3.71	3.84	4.17	4.17	4.17	4.18	4.06
Services and Outcomes	medium	3.83	3.65	3.81	3.85	3.79	2.86	3.47	3.17	3.68	3.54
Service Delivery	medium	4.00	3.75	4.08	4.00	3.96	3.47	3.75	3.61	4.00	3.86
Services Tracking	medium	4.00	3.40	3.80	3.80	3.75	2.67	4.00	3.33	4.20	3.76
Outreach	low	3.00	3.00	3.00	3.00	3.00	1.67	1.67	1.67	2.00	2.22
Progress Tracking	low	3.80	3.40	4.20	3.60	3.75	2.00	3.00	2.50	3.40	3.22
Outcomes Measurement	low	4.20	3.80	3.80	4.40	4.05	3.33	4.33	3.83	4.20	4.03
Follow-Up	medium	4.00	4.57	4.00	4.29	4.21	4.05	4.05	4.05	4.29	4.18
Reporting	low	3.25	3.38	3.13	3.25	3.25	2.92	2.50	2.71	3.13	3.03
Client Demographics	low	4.00	3.00	3.00	4.00	3.50	3.33	1.67	2.50	3.00	3.00
Aggregate Unduplicated	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Client Intake & Exit	medium	4.00	4.00	3.00	4.00	3.75	3.33	3.33	3.33	4.00	3.69
Services Rendered	high	4.00	4.00	3.00	4.00	3.75	5.00	3.33	4.17	4.00	3.97
Bed Register Capacity	medium	4.00	3.00	4.00	4.00	3.75	5.00	5.00	5.00	4.00	4.25
Variety of Built-in Reports	low	3.50	4.50	4.00	3.50	3.88	2.50	1.67	2.08	3.50	3.15
Reports by Program	low	3.50	4.50	4.00	3.50	3.88	2.50	1.67	2.08	3.50	3.15
Custom Reports	low	3.00	4.00	4.00	3.00	3.50	1.67	3.33	2.50	3.00	3.00
HUD APR	low	3.00	4.00	4.00	4.00	3.75	3.33	5.00	4.17	4.00	3.97
Local System Administration	medium	4.00	2.67	4.00	3.00	3.42	3.89	3.89	3.89	4.00	3.77
Agency Administration	high	4.00	3.00	4.00	2.00	3.25	5.00	5.00	5.00	4.00	4.08
Ability to Add Data Elements	high	4.00	2.00	4.00	3.00	3.25	5.00	5.00	5.00	5.00	4.42
Export Mechanisms	low	4.00	3.00	4.00	4.00	3.75	1.67	1.67	1.67	3.00	2.81
Average Results for Criteria	medium	3.81	3.63	3.80	3.74	3.75	3.43	3.58	3.51	3.80	3.68

The result score for each functional evaluation category is graphed in Figure 7. The average ease of use and comprehensiveness scores for all functional activities are graphed in Figure 8.

Figure 7: ClientTrack Functional Activity Scores By Category



Bar graph displaying levels for the following categories: Intake and Exit; Information and Referral; Operations; Client Assessments; Services and Outcome; Reporting; HUD APR; and Local System Administration.

Intake and Exit: The system has a quick entry wizard that allows caseworkers to do a comprehensive intake in a well-defined, multi-step process. This process not only enters client information but also gathers information requested by funding sources, including HUD. The process also includes entry of household and household member information, and concludes with a printable application. ClientTrack also uses scan card technology.

Clients can be retrieved from the database using the client name, Social Security number, alias, address, phone or household number. Partial text searches are allowed to search the database fields for names with questionable spelling. There is only one field for client names, so users must know to put the last name first and separate the first name with a comma. Clients are exited on a program specific basis. Exit information is found on a client's general enrollment form for each program; thus, exit is not a separate function.

Information and Referral: ClientTrack stores a list of external providers with their contact information. When referring to these providers, a caseworker searches for the provider name and the contact information is immediately populated. Users can also associate the referral with caseworkers at the external agency. Staff with the proper access at the receiving agency can update the status of the referral.

The referral list is accessed only through a client record. ClientTrack does not have a separate directory of agencies or programs, but it does categorize programs by type.

Operations: ClientTrack tightly integrates grant management and funding sources with services. The administrator sets up funding sources, including grant amount, then adds services under the grant with upper and lower limits for that service in monetary or other units. In order to receive services, all clients must be enrolled under a grant. ClientTrack has the ability to record units of services received per client. There is also a donor tracking module that captures donors and grant amounts received from each donor.

ClientTrack has comprehensive bed assignment functionality available both at the client record and at the facility level. The system also distinguishes between reservations and check-ins. The bed assignment can be kept as an internal process or posted as a service for other agencies. The process of posting the bed list as a service requires training. Incident tracking is not included as a separate module, but only as a type of case management document.

Client Assessments: ClientTrack is a strong tool for client assessment. A client's special needs and skills are entered and organized by type. Extensive information can be added for each need. Caseworkers can also keep a running history of updates related to each need. Client assessment information – specifically barriers, skills, action plans, services, and housing history – is organized, linked together, and accessible through a single screen. This provides a caseworker with a fast, easy way to review and update a client's case file.

ClientTrack captures comprehensive data elements in the areas of health, mental health, substance abuse, income (including client budgeting tools), employment history and job training, as well as household member information. It captures only minimal information on education and military involvement.

Services and Outcomes: ClientTrack is strong in managing services. The system distinguishes between three types of service. Universal services are recorded for individual clients, but are not associated with a particular funding source. Indirect services allow the caseworker to record a service delivered under a funding source, without associating it with a particular client. Standard services are assigned to a particular client through a funding source. Standard services are always linked to a pre-defined client need and become part of the overall client case plan. Multiple standard services can also be linked to a facility such that every client who checks in is automatically given the service. Assigning services also involves entering the cost of the services. Progress and outcomes can be tracked for each need defined. There is also a complete follow up module where caseworkers can enter extensive information about a client's status at multiple points in time.

Reporting: ClientTrack includes a limited number of standard management reports on client data, services and referrals. Additional reports relevant to a particular module can be generated from within that module. For example, a daily visitor log can be generated from within the bed facility area. Custom reports can be generated through Crystal Reports. The report results can also be exported to another application.

HUD Annual Progress Report (APR): ClientTrack has the ability to answer all APR questions, including the client demographics, clients served and funding related questions. The user can produce a summary APR report or produce separate reports for each HUD question.

Local System Administration: Local System Administration is comprehensive and includes features for configuring programs, providers, locations, grants, services, service types, service codes, and user accounts. DSI typically performs the setup and configuration based on extensive information from the agency.

ClientTrack uses sophisticated technology to deploy upgrades, which makes the process easy for users and administrators. The solution is also completely customizable. After receiving developer training, local developers can add fields of any data type to any screen. Customizations are maintained separately from the primary source code so that they are minimally affected by upgrades.

Evaluation Criteria Results

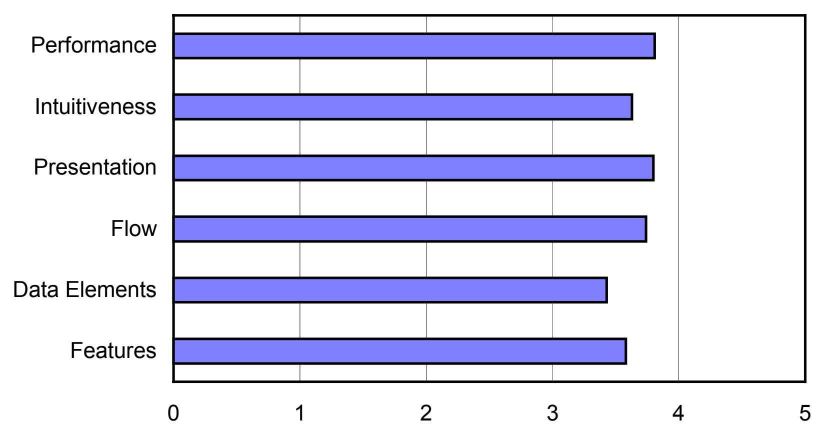
Ease of Use: One of ClientTrack's strengths is the consistent look and feel throughout the application. Menus are always in the same place. Screens are well laid out and not cluttered, though they lack color. The process of searching, adding and modifying information, and looking at linked data is the same regardless of whether the information is a client, an organization, a bed or a funding source. Thus, once a user learns how to operate one aspect of the system, he or she will know how to do almost everything else.

ClientTrack requires training. Without training, it is difficult to find where in the system to enter some basic information or how to do some of the managerial tasks such as posting services. After the user becomes acquainted with the system's building blocks, accomplishing any given task becomes straightforward.

Comprehensiveness: ClientTrack is a strong tool for agencies that want to capture reliable data. Data entry screens have a built in validation feature that ensures required data elements are collected. Although screens themselves do not highlight required fields, after entering data, the validation feature will supply a list of each element that is missing. The high proportion of required fields might not appeal to users who are primarily interested in entering data quickly; although the constant validation results in a more complete data set. Wherever possible, the data entry process is assisted by auto-population features. For example, a caseworker only enters a zip code, and the city and state are filled in by the system.

ClientTrack is comprehensive with respect to the amount of client level data it captures. It also stores a wide array of information about each service or other activity tracked. Features such as integrated document templates and internal bulletin boards also add value to the product as a whole.

Figure 8: ClientTrack Average Ease of Use and Comprehensiveness Scores



Bar graph displaying results for the following categories: Performance, Intuitiveness, Presentation, Flow, Data Elements, and Features.

System Evaluation Results

Data Sharing and Security: ClientTrack has a flexible data-sharing model that allows agencies to choose whether they want to share client information with other organizations on a client-by-client basis. Caseworkers can choose to share all or only part of a client's case file with other agencies in a community. A user may choose to share information between organizations, but not some of the functional areas. The functional areas that can be defined as organization specific include the following: barriers, skills, goals, services and grant services.

User permissions are based on groups. Varying permission levels can be granted ranging from read only through caseworker, manager, administrator, and developer access. Users can also be configured to only view a particular screen or group of screens. The system implements SSL and certificates in order to maintain transaction security across the Internet.

Training, Service, and Support: DSI supports a train-the-trainer model where local power users are trained by DSI staff, who then relay information locally. DSI conducts user trainings as well as administrator and developer training sessions. DSI also conducts trainings after major upgrades.

Support is available via email or phone for extended hours. Generally, the average user relies on a local experienced user for front line support. In the site visit, the community users reported that DSI is very responsive to their needs. Software modifications and bug fixes are sent to the user through standard upgrade procedures. User, administration, and developer documentation is available either in print form or through the online help.

Technical Requirements and Specifications: ClientTrack operates over the Internet but does not use a web browser. Rather, a Windows client application is installed in order to access the system. The client application takes up about 25 megabytes of local disk space. The application code is stored locally and only the data is transferred over the Internet. The application is written in C++ and incorporates Java Components. The solution can be hosted by DSI as an ASP or implemented as a licensed solution. The hosted version uses a SQL Server 7.2 database and a Windows 2000 application server. The solution can also operate on Sybase, Oracle, or Informix databases.

Recommended Server Hardware Requirements	
Server(s):	Pentium IV, 1 Ghz, 512 MB RAM,
Operating System:	Windows 2000 Terminal Server
Storage:	2 GB
Server-side Bandwidth Connection:	10Mbit Ethernet
Security:	Router with firewall

Recommended Minimum Agency Hardware Requirements	
User PC:	Pentium III, 500 or better; 1 GB storage or better; 128 MB RAM or better
Operating System:	Windows 9x, 2000, XP, Macintosh, UNIX, Sun Solaris
User Internet Connection:	Broadband 10 Mbit (Cable/DSL)
Network Architecture and Components:	Router to service LAN

Pricing: ClientTrack pricing is based on per user setup and monthly fees. These fees vary according to the size of the overall implementation. There are additional fees for use of development tools. Consulting, integration, data conversion, customization and training fees are charged on an hourly rate, which vary according to the number of hours incurred.

Description[14]	Small (0-75)	Medium (76 to 200)	Large (200+)
<u>HMIS Solution Pricing Structure</u>			
One Time Setup Fees – Server	$1,250	$3,500	$6,000
One Time Setup Fees – Per Agency	$500	$500	$500
One Time Setup Fees – Per User	$100 per user	$75 per user	$50 per user
Optional: ClientTrack Development Tools – One Time Fee	$3,000	$6,000	$12,000
Monthly User Fees	$18 per user	$15 per user	$12 per user
Monthly User Fees for Tools	$1.50 per user	$1.00 per user	$0.75 per user
Crystal Viewer – No Charge	N/C	N/C	N/C
Upgrades, enhancements and new releases are included in the Monthly Service Fees	N/C	N/C	N/C
Telephone support M – F 8:00am to 6:00pm MST	N/C	N/C	N/C
Extended Hours Support	Available	Available	Available
<u>Other Necessary Platforms</u>			
Crystal Reports 8.5 – Developer Version. This is required if the customer chooses to develop their own reports using Crystal Reports.	$470	$470	$470
<u>Hosting Fees</u>			
Database	N/C	N/C	N/C
Server Connection	N/C	N/C	N/C
Server Bandwidth	N/C	N/C	N/C
<u>Professional Fees</u>			
Consulting, Integration, & Data Conversion, Training, and Customization Fee Schedule			
1 to 50 hour blocks	$125 / hour	$125 / hour	$125 / hour
51 – 100 hour blocks	$115 / hour	$115 / hour	$115 / hour
101 – 250 hour blocks	$105 / hour	$105 / hour	$105 / hour
251 and above Hour Blocks	$95 / hour	$95 / hour	$95 / hour
<u>Development Tools Training Class – 2 Days</u>			
1 to 2 persons	$1,800 per person	$1,800 per person	$1,800 per person
3 persons and above	$1,400 per person	$1,400 per person	$1,400 per person
<u>Travel Expenses – Bill as Incurred</u>			

Additional Considerations

ClientTrack's close linkage of services and clients to funding sources could be beneficial for communities and agencies looking for a system for integrated operations monitoring. ClientTrack is a full-featured tool designed to handle multiple social service needs. The "homeless" module is just one of several fully developed program areas. Other areas track information needed for WIA (Workforce Investment Act) and WTW (Welfare to Work) programs. Other modules enable users to track employers in order to find job matches and to schedule events and workshops. In addition, since every module in the system uses the same basic architecture, the system can easily scale to include additional program areas.

[14] Note: Prices listed were compiled in preparation for the publication of this report. Prices are subject to change at any time. Chapter Four includes comparative cost of operation information.

Solution Provider Commentary

General Feedback:

ClientTrack includes extensive functionality in several areas that are mentioned only briefly or not covered in this document:

Event scheduling allows organizations to define workshop, locations, schedules and then client enrollments. In addition, attendance is tracked for "No Shows" to include related outcomes.

Employer functionality includes the following: creating employers and related locations; creating location contact names and phone numbers; creating a contact log of contacts to include case notes; creating employer job orders with related case notes; job skills matching functionality; job referrals and referral tracking; and job contracts with actual clients.

Scan Card functionality allows organizations to scan photo images or take them with a camera and then print physical scan cards. In addition, the scan card integration includes scan ID look-ups from the majority of the ClientTrack screens.

The case management feature handles assignments and includes capabilities of viewing active and inactive client assignments.

The system also includes tasks and task management capabilities, test tracking, client surveys and follow-ups.

Recent Upgrades:

Visual queues for required fields.

Help bubble to display of the icons.

"Turnaway" functionality was added to the bed facility area to track "turnaways" and related turn away reasons.

Referrals were enhanced to include referrals to shelters where the referee can view bed availability by day.

There is a new demographic report that illustrates individual and household demographics information. Organizations can drill into the associated detail.

The ability to merge duplicate clients and associated transaction records.

Case Manager Assignments were enhanced to allow the ability to transfer case loads to other case managers.

In the released version of 7.5, ClientTrack allows the organization to define the length of the password and the password is encrypted in the database.
Security and confidentiality was enhanced to allow users to setup memorandums of understanding and sharing configurations by organization. These configuration options include unilateral and bi-lateral sharing agreements with date parameters and the ability to preclude sharing of specific data. Client information can also be configured to be case manager specific, and sharing rules (and dates) can vary by client. All reports that are run within ClientTrack obey these sharing rules.

The case note editor now has the option to use MS Word. This feature also includes the use of MS Word templates.

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Company Background

St. Vincent de Paul (S.V.D.P.) originally developed C-STAR to track its own homeless services in 1996. The program was developed to respond to HUD's reporting requirements. It was quickly integrated into the agency's operations and its functionality has been built out considerably to support the ongoing needs of the organization. Computer Sciences Corporation (CSC), a large, global consulting organization, developed the software. Developer hours are billed at a significantly reduced rate and S.V.D.P. management owns all intellectual property. The ongoing support and maintenance contract continues indefinitely; however, major revisions to the code are bid on a case-by-case basis. C-STAR is currently being implemented in California, Nevada, and Pennsylvania.

Product Background

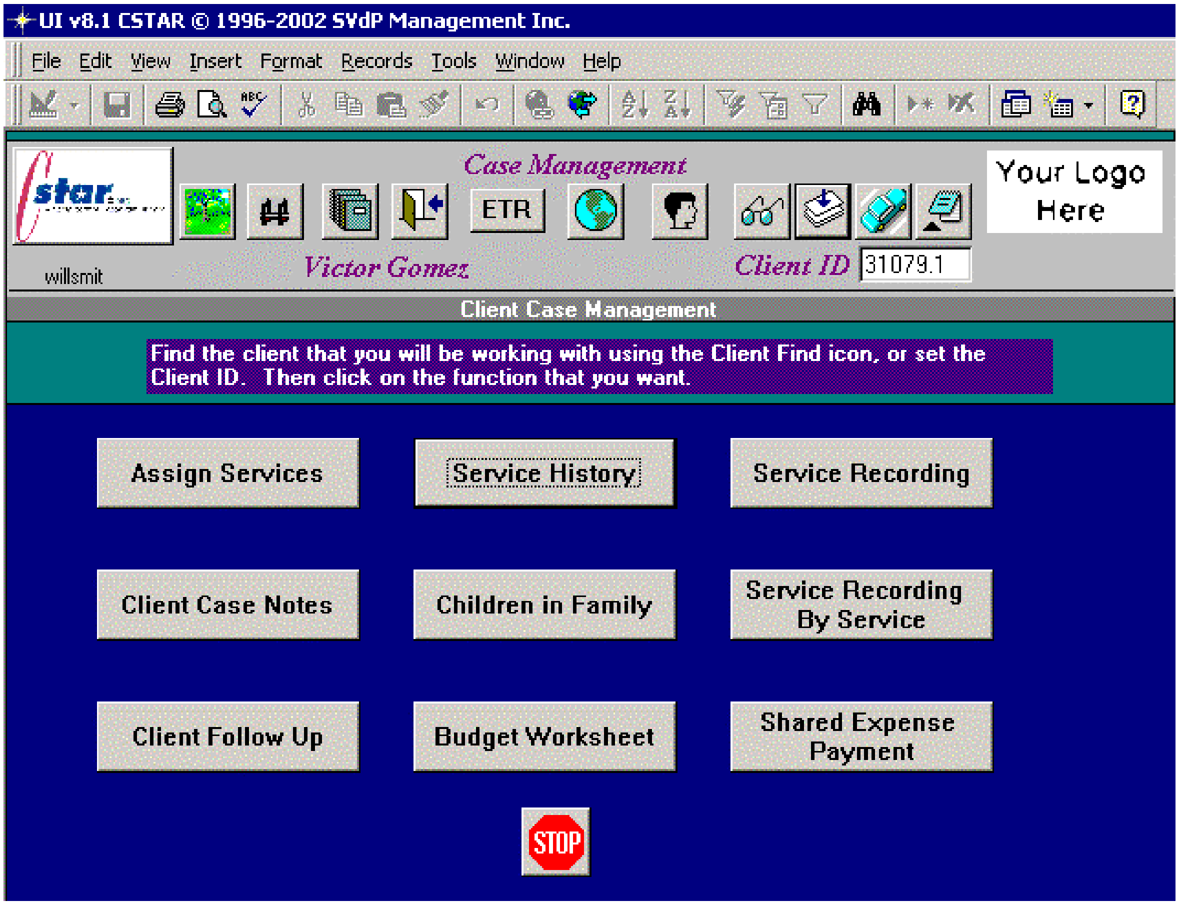
Recently, C-STAR data was ported to Microsoft SQL Server from Microsoft Access. Service tracking and reporting are the most developed features within the solution, although the software covers numerous other agency needs. Feature and technology development are primarily driven by internal organizational needs, guided by a user committee. External customers do not presently participate on the user committee, but SVDP management would also consider their software development needs. The solution is not currently offered as an Application Service Provider (ASP) solution; therefore, requests for hosting would be directed to CSC.

Solution Highlights

Service Tracking: C-STAR contains comprehensive tools for assigning, delivering and tracking services provided to a client both in-house and through an outside referral. C-STAR has the functionality to assign services, capture a service history, record service delivery, as well as add case notes. Services can be assigned to an individual client or through a group activity process. Mandatory services can be linked with client stay. The system also has the ability to track services using scan card technology.

HUD Annual Progress Report (APR): C-STAR has one of the most comprehensive and user friendly APR reporting tools. In addition to the completion of the demographic questions on the report, C-STAR contains an error reporting mechanism that identifies clients' missing data for each question. Users have the ability to use this mechanism that is built directly into the generation of the report. Additionally, users can generate reports by funding source, facility, or HUD program component.

The graphic below is a screen shot of C-STAR's HMIS, specifically the screen that displays the available options under client case management, such as client case notes and service history.



<u>Functional Activity Results</u>

Table 10 displays the lab evaluation scores for each of the functional evaluation activities by the evaluation criteria. The result scores reported in the last column reflect the average of the overall impression, average ease of use, and average comprehensiveness scores for each functional evaluation activity. Note that ease of use and comprehensiveness are often competing concerns, which may be blurred by only examining average results. Overall criteria averages are shown in the last row. While the category averages factor in all activities in the category, the overall criteria averages do not factor in activities when the scores are zero.

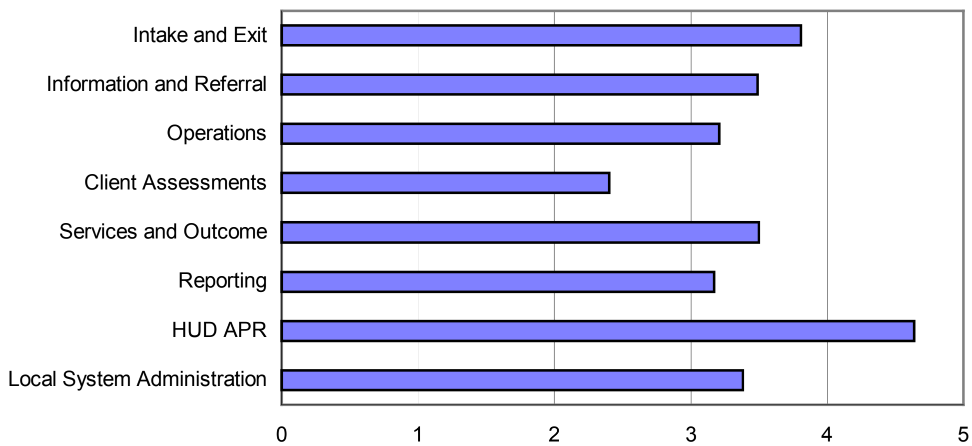
The following scale is used: 0 (not present in the solution reviewed); 1 (poor); 2 (fair); 3 (good); 4 (very good); and 5 (excellent).

Table 10: C-STAR Result Scores

Functional Activity	Data Entry Required	Performance	Intuitiveness	Presentation	Flow	Average Ease Of Use	Data Elements	Features	Average Comprehensiveness	Overall Impression	Result Score
		Ease of Use Scores					Comprehensiveness Scores				
Intake and Exit	medium	4.00	3.94	3.71		3.92	3.59	3.60	3.59	3.92	3.81
Client Intake	medium	4.00	3.76	3.54	3.84	3.79	3.73	3.13	3.43	3.72	3.65
Exit Interview	medium	4.00	4.13	3.88	4.25	4.06	3.44	4.06	3.75	4.13	3.98
	medium	3.96	3.35	3.80	3.65	3.69	3.38	3.46	3.42	3.37	3.49
Program Eligibility	medium	3.95	3.42	3.84	3.58	3.70	3.60	3.42	3.51	3.37	3.52
Information and Referral	medium	3.93	3.07	3.57	3.29	3.46	3.21	3.33	3.27	3.29	3.34
Recording Client Moves	medium	4.00	3.55	4.00	4.08	3.91	3.33	3.64	3.48	3.46	3.62
Operations	low	3.97	3.94	3.62	3.89	3.86	2.59	2.57	2.58	3.20	3.21
Agency Accounting	low	4.00	4.00	4.00	4.00	4.00	1.67	1.67	1.67	2.00	2.56
Bed Register	medium	3.90	3.67	3.52	3.76	3.71	3.33	3.33	3.33	3.86	3.63
Incident Management	medium	4.00	4.17	3.33	3.92	3.85	2.78	2.72	2.75	3.75	3.45
Client Assessments	low	2.59	2.53	2.50	2.43	2.51	2.16	2.22	2.19	2.50	2.40
Needs Assessment	medium	3.85	3.69	3.69	3.54	3.69	3.21	3.21	3.21	3.62	3.50
Goal Setting	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Service/Treatment Plan	medium	3.92	3.89	3.82	3.74	3.84	3.29	3.46	3.38	3.89	3.70
Services and Outcomes	medium	3.68	3.92	3.68	3.77	3.76	3.12	3.29	3.20	3.52	3.50
Service Delivery	medium	3.75	3.83	3.92	3.67	3.79	3.91	3.47	3.69	4.13	3.87
Services Tracking	medium	4.00	4.40	4.00	4.40	4.20	3.67	4.33	4.00	4.60	4.27
Outreach	low	3.00	3.00	3.00	3.00	3.00	1.67	1.67	1.67	2.00	2.22
Progress Tracking	medium	4.00	4.00	4.00	4.00	4.00	2.50	3.33	2.92	4.00	3.64
Outcomes Measurement	medium	3.33	4.00	3.33	3.67	3.58	2.92	3.33	3.13	2.40	3.04
Follow-Up	medium	4.00	4.29	3.86	3.86	4.00	4.05	3.57	3.81	4.00	3.94
Reporting	medium	2.88	3.00	3.38	3.31	3.14	3.44	2.91	3.18	3.19	3.17
Client Demographics	low	2.00	3.00	3.00	4.00	3.00	3.33	3.33	3.33	3.00	3.11
Aggregate Unduplicated	low	3.00	3.00	3.00	3.00	3.00	1.67	1.67	1.67	3.00	2.56
Client Intake & Exit	low	2.00	3.00	3.00	4.00	3.00	1.67	1.67	1.67	3.00	2.56
Services Rendered	medium	2.00	3.00	4.00	4.00	3.25	3.33	3.33	3.33	4.00	3.53
Bed Register Capacity	medium	3.00	2.00	3.00	2.00	2.50	3.33	3.33	3.33	2.00	2.61
Variety of Built-in Reports	medium	3.50	4.00	4.50	3.50	3.88	5.00	4.13	4.57	4.50	4.31
Reports by Program	medium	3.50	3.50	3.50	3.50	3.50	5.00	3.33	4.17	3.50	3.72
Custom Reports	medium	4.00	2.50	3.00	2.50	3.00	4.17	2.50	3.33	2.50	2.94
HUD APR	medium	5.00	4.00	5.00	5.00	4.75	3.33	5.00	4.17	5.00	4.64
Local System Administration	medium	4.00	2.67	3.00	3.33	3.25	4.44	3.33	3.89	3.00	3.38
Agency Administration	high	4.00	2.00	3.00	3.00	3.00	5.00	3.33	4.17	3.00	3.39
Ability to Add Data Elements	low	4.00	3.00	3.00	3.00	3.25	3.33	3.33	3.33	3.00	3.19
Export Mechanisms	medium	4.00	3.00	3.00	4.00	3.50	5.00	3.33	4.17	3.00	3.56
Average Results for Criteria	medium	3.63	3.46	3.58	3.65	3.58	3.37	3.21	3.29	3.42	3.43

The result score for each functional evaluation category is graphed in Figure 9. The average ease of use and comprehensiveness scores for all functional activities are graphed in Figure 10.

Figure 9: C-STAR Functional Activity Scores By Category



Bar graph displaying levels for the following categories: Intake and Exit; Information and Referral; Operations; Client Assessments; Services and Outcome; Reporting; HUD APR; and Local System Administration.

Intake and Exit: C-STAR is designed to capture information on both individuals and families. Search options are available on first or last name, Social Security number, or date of birth. Client information is entered through a visual tab set up including demographics. The intake process is two tiered; first a client must be added to the system then they are checked into a program by funding source. Basic exit information that can be associated with a stay includes date, reason for leaving, and destination. Additional exit information such as housing placement, income, and extra comments can be added by using the check out button on the main menu.

Information and Referral: The Information and Referral component of C-STAR is directly linked with the service delivery-tracking tool. When assigning a service, a case manager can also identify the provider and location to which the client was referred. The providers are not organized or identified by service type. Services can be shared between agencies, thus diminishing duplication.

Operations: C-STAR contains a robust bed availability wizard. Agencies implementing C-STAR can search for beds available throughout the community by facility, category (e.g., single male, family, other) type (e.g., double, single, other), or room. If a bed is not found, clients can be placed on "stand by." C-STAR also contains an incident reporting mechanism that tracks individual client level violations including violation type, severity, and notes. In addition, C-STAR has an eligibility return feature that indicates the length of time that a client is not eligible for services within a particular program. Agency accounting features are limited to the identification of funding source and service costs for agency operational components.

Client Assessments: C-STAR captures comprehensive demographics, income, and military information. Less information is gathered on a client's education, health, and employment history. C-STAR contains the flexibility for case managers to add text notes specific to each client on up to 16 different categories of service. Notes can be shared or restricted to a single user or group of users. The children's services and profile module captures extensive information on children including immunization, educational involvement, and social development issues. C-STAR also contains a client budgeting tool.

Services and Outcomes: In addition to the Services Tracking discussed in the Solution Highlights section, C-STAR also captures significant information related to each service assigned, such as the number of sessions to attend and attended. Services can be documented as mandatory, or requiring transportation or childcare to complete. C-STAR also contains a service record history for each client according to agency stay. C-STAR does not have a goals and outcomes tracking component.

Reporting: C-STAR contains many built in reports including client, program, and agency level reports. Client level reports include case plan details, client violations, and expenses. Program and agency level reports include rosters, demographics, staff member caseloads, service statistics, clients checked in, and clients checked out. Separate interfaces are available for the generation of additional demographic and service reports. These reports include numerous charts and graphs; however, they may be slow to generate. Although there is no custom reporting tool for the standard user, C-STAR administrators receive an "Ad Hoc Interface," which enables custom reporting through the Microsoft Access report generator.

HUD Annual Progress Report: See Solution Highlights section.

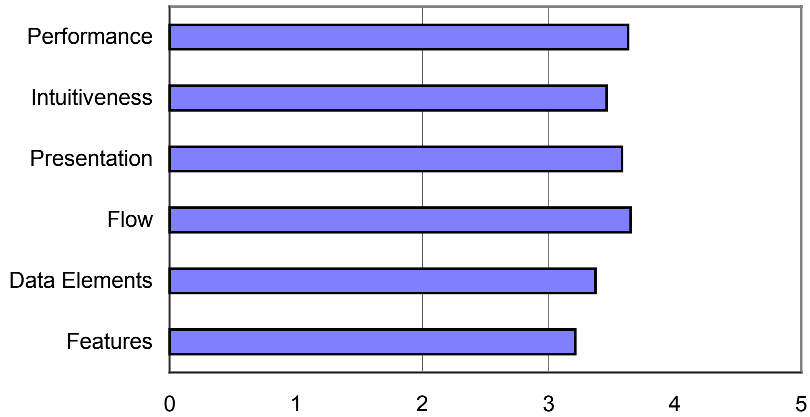
Local System Administration: Implementation of C-STAR requires knowledge of both SQL Server and network administration. C-STAR is typically installed using SQL Server over a LAN (local area network) or WAN (wide area network). The solution has an interface allowing the administrator to set up agencies and program, facilities, users, bed types and categories. The solution allows for the customization of pick lists and case note categories as well as the addition of 16 yes/no, 10 numeric and five text questions per installation.

Evaluation Criteria Results

Ease of Use: C-STAR is relatively user friendly; however, each module functions in a different manner, thus requiring significant training. Menus and icons are not placed consistently on the screens throughout the application. Performance is generally good, though report generation requires considerable time.

Comprehensiveness: C-STAR was designed to be a client and services tracking system; therefore, it contains many features and fields built around those core strengths including multiple fields and notes associated with any services delivered. Additionally, C-STAR has a bed search wizard, violations tracking, as well as extensive information on children's history and services.

Figure 10: C-STAR Average Ease of Use and Comprehensiveness Scores



Bar graph displaying results for the following categories: Performance, Intuitiveness, Presentation, Flow, Data Elements, and Features.

System Evaluation Results

Data Sharing and Security: C-STAR is typically installed in a single agency or group of agencies. It can be extended outside of a local network using Citrix Server, for example. The security of the system is largely dependent upon the network that it is installed on. Permissions are configured through a separate interface and are based on SQL Server and Microsoft Access security (e.g., access based on user groups). The "Staff Facility Access" tool allows the administrator to extend or restrict access by staff member to client service records associated with other facilities. There is no interface to allow agencies to share or withhold information between other agencies as a whole. There is also no feature allowing for one particular client's records or a particular subset of a client's record to remain private.

Training, Service, and Support: Training for C-STAR is provided directly by S.V.D.P. Management using either the St. Vincent de Paul training lab or directly on site at the agency. There is no integrated online help for C-STAR; however, useful information and helpful tips are placed throughout the application. Online help and user FAQ's are also available. Support is available via phone and email from the West coast so morning support for East coast implementations is limited; however, site visits report that support staff are very responsive given these limitations.

Technical Requirements and Specifications: C-STAR is a two-tier, client/server solution, which uses an Access 97 Windows client interface and a SQL Server 7.0 database. Smaller implementations can use Access 97 as the back end. Problems were encountered trying to install the system on SQL Server 2000 database. Although C-STAR is basically client/server technology, implementation can be broadened across the Internet using Citrix Server to enable a remote interface. The system requires client installation depending upon the configuration. C-STAR does have an export feature; however, it requires a high level knowledge of SQL Server. S.V.D.P. will perform migration from existing systems.

Recommended Server Configuration		
☐ ASP	☒ Licensing	☒ Other
Server(s):	Pentium 700 MHz	
Operating System:	Windows NT/2000 Server	
Storage:		
Server-side Bandwidth Connection:		
Security:		

Recommended Minimum Agency Hardware Requirements	
User PC:	Pentium 700MHz
Operating System:	Windows 98; 2000
User Internet Connection:	TBD based on LAN or WAN
Network Architecture and Components:	LAN

Pricing: S.V.D.P. Management, Inc.'s C-STAR pricing is a license and seat-based solution that requires the agency or community to provide the database, LAN, servers, networking equipment, and connectivity. Each user PC must have a runtime copy of Microsoft Access, which is provided with the C-STAR distribution; a licensed copy of Microsoft Access is required for those users doing Ad Hoc data modifications or reporting. There is a one-time start up fee and annual maintenance. Minor upgrades and software patches are included in the maintenance fee; however, major upgrades require an additional one-time payment (equivalent to 80 percent of the solution cost).

Solution Pricing[15]	
Solution Cost:	$15,000 start up (for up to 15 users)
User Licenses:	$200 for each seat over 15
Annual Solution Maintenance:	$1,000 per year
Additional Licensing Costs:	SQL Server license plus $200 per additional user
Consulting Conversion of existing database: Customization fees:	 $100 per hour plus travel expenses $100 per hour
Training fees:	$100 per hour after initial training included with purchase
Annual support fees:	$100 per hour after first 20 hours

The $15,000 start up fee includes a two-day system administrator train-the-trainer session. In addition, 20 hours of support for the year are included, as well as network infrastructure specification consulting, actual system installation, and solution documentation. User training is extra and costs $800 per day. Customization and data migration consulting are additional and are billed at a fixed rate of $100 per hour.

[15] Note: Prices listed were compiled in preparation for the publication of this report. Prices are subject to change at any time. Chapter Four includes comparative cost of operation information.

Additional Considerations

C-STAR was designed for client and service tracking for a large service provider agency. C-STAR is built on basic client/server technology and is best used for a large agency installation and not for continuums wanting to share client level data between agencies. It should be noted that C-STAR is written in Access 97, an aging platform, and may have conflicts with newer operating systems or newer versions of Access. C-STAR is best implemented for single agencies or small groups of providers.

Solution Provider Commentary

Reporting: C-STAR reports generate quickly when using the recommended equipment.

Ease of Use: Menus and icons throughout C-STAR are consistent for like functionality.

Training, Service and Support: There is a user manual; it is currently being updated with the release of version 9.

Additional Considerations: We are unaware of any conflicts with newer operating systems. Microsoft supports upward compatibility. In terms of the export feature, the C-STAR Ad Hoc Utility can make use of MS Access export tools with relative ease.

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Company Background

Mid America Assistance Coalition (MAAC), a non-profit 501(c)3 corporation[16], was incorporated in 1985 from the merger of two long-established assistance organizations, the Emergency Assistance Coalition of Food Pantries, established in 1974, and the Warmth and Light Utility Assistance program established in 1977. The merger centralized the client tracking, and information and referral processes to better serve low-income citizens. With the increased need for detailed reports on the use of funds and services delivered, MAAC and its agency collaborators decided to establish a software-based solution to collect information and perform reporting. The system is currently being used throughout the Kansas City metropolitan area among the five Continuua of Care, as well as in communities in Nebraska and Louisiana.

Product Background

In 1994, MAAC established a PC-based network (MAACLink) using a DOS application written in FoxPro. The original system tracked basic information about recipients and services, and incorporated a “strengths-based” case management outcomes measurement in the software design of the data elements. During the late 1990s the decision was made to license the software to other communities. In the fall of 2001, MAACLink underwent a major system upgrade to a Windows based application. The latest revision of the product was developed by a small, Kansas City systems integrator/consulting organization, Akcia, Incorporated. MAAC owns the intellectual property. The product is currently sold as an out-of-the-box solution, with customization only available for reporting.

Solution Highlights

Services Delivered Linked to Funding Sources: Each service option can tie directly to a funding source. Real time fund balances may be maintained for selected managed funds. This feature is beneficial for agencies interested in closely monitoring available funds, funds utilized for specific services such as Utility Assistance, and other use of funds-related information.

Standard Reporting: Standard reports run fast and provide powerful selection options. There are a wide variety of different report options that allow the user to vary the date range as well as the data elements included. The report writer provides access to nearly all of the data elements collected by the system. Reports can be exported to over 30 different formats including Excel, standard text delimited, various ODBC formats, and XML.

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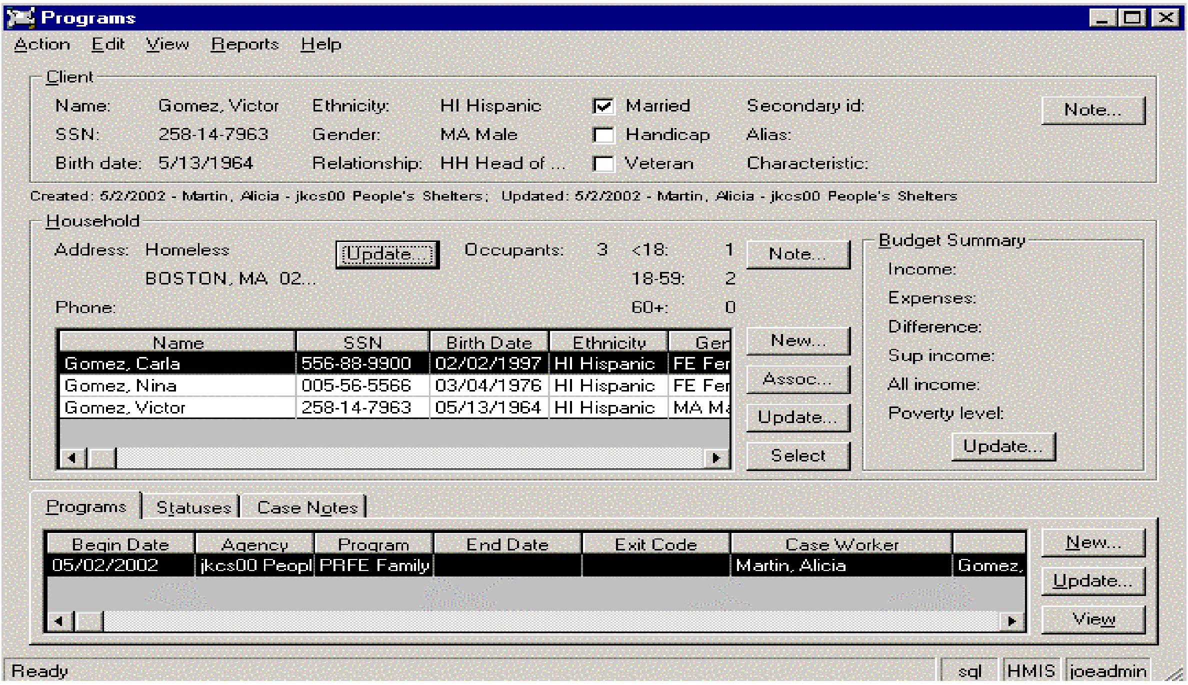
[16] Appendix C describes corporation types.

The graphic below is a screen shot of MAACLink's HMIS, specifically the screen that displays client and household information by program.



Functional Activity Results

Table 11displays the lab evaluation scores for each of the functional evaluation activities by the evaluation criteria. The result scores reported in the last column reflect the average of the overall impression, average ease of use, and average comprehensiveness scores for each functional evaluation activity. Note that ease of use and comprehensiveness are often competing concerns, which may be blurred by only examining average results. Overall criteria averages are shown in the last row. While the category averages factor in all activities in the category, the overall criteria averages do not factor in activities when the scores are zero.

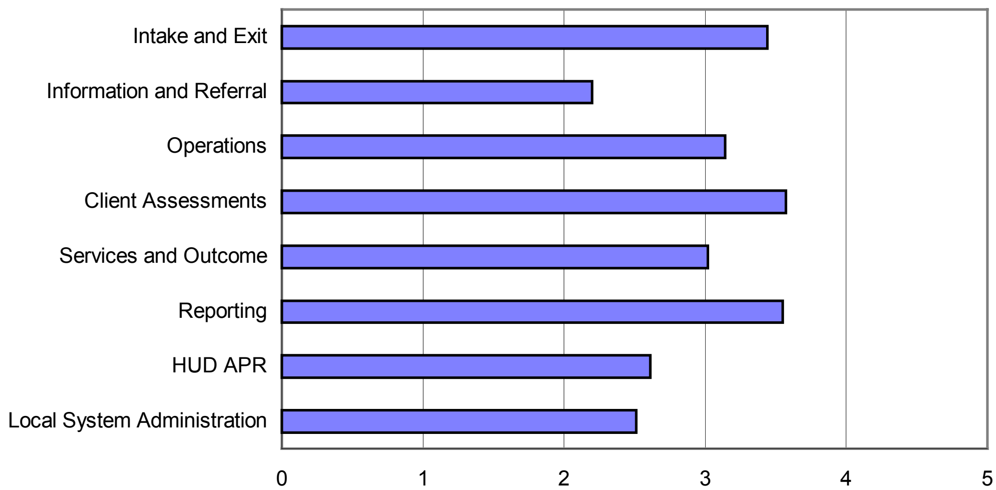
The following scale is used: 0 (not present in the solution reviewed); 1 (poor); 2 (fair); 3 (good); 4 (very good); and 5 (excellent).

Table 11: MAACLink Result Scores

Functional Activity	Data Entry Required	Performance	Intuitiveness	Presentation	Flow	Average Ease Of Use	Data Elements	Features	Average Comprehensiveness	Overall Impression	Result Score
		Ease of Use Scores					Comprehensiveness Scores				
Intake and Exit	medium	3.71	3.76	3.57	4.01	3.76	2.90	3.04	2.97	3.60	3.44
Client Intake	medium	3.75	4.25	3.67	3.96	3.91	2.92	3.19	3.06	3.80	3.59
Exit Interview	medium	3.67	3.27	3.47	4.07	3.62	2.89	2.89	2.89	3.40	3.30
Information and Referral	low	2.57	2.50	2.58	2.67	2.58	2.01	1.84	1.92	2.10	2.20
Program Eligibility	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Information and Referral	medium	3.82	3.73	3.73	4.00	3.82	2.88	2.73	2.80	3.08	3.23
Recording Client Moves	medium	3.89	3.78	4.00	4.00	3.92	3.15	2.78	2.96	3.23	3.37
Operations	low	3.74	3.70	3.30	3.93	3.67	2.67	2.94	2.81	2.95	3.14
Agency Accounting	low	4.00	4.00	3.00	4.00	3.75	3.33	3.33	3.33	3.00	3.36
Bed Register	medium	3.22	3.11	3.89	3.78	3.50	3.33	3.33	3.33	2.86	3.23
Incident Management	low	4.00	4.00	3.00	4.00	3.75	1.33	2.17	1.75	3.00	2.83
Client Assessments	medium	3.87	4.30	3.36	3.97	3.87	3.17	3.06	3.12	3.71	3.57
Needs Assessment	medium	3.82	4.55	3.36	4.00	3.93	3.18	3.03	3.11	4.09	3.71
Goal Setting	medium	4.00	4.14	3.16	3.86	3.79	3.10	2.86	2.98	3.00	3.26
Service/Treatment Plan	medium	3.78	4.22	3.56	4.06	3.90	3.24	3.29	3.26	4.03	3.73
Services and Outcomes	low	3.59	3.44	3.18	3.83	3.51	2.44	2.48	2.46	3.10	3.02
Service Delivery	medium	3.67	3.67	3.33	4.00	3.67	2.78	2.78	2.78	3.29	3.24
Services Tracking	low	3.60	3.80	3.20	4.00	3.65	2.67	2.67	2.67	3.60	3.31
Outreach	low	3.00	3.00	3.00	3.00	3.00	1.67	1.67	1.67	2.00	2.22
Progress Tracking	low	3.60	3.40	3.00	4.00	3.50	2.33	2.33	2.33	3.00	2.94
Outcomes Measurement	low	3.80	3.20	3.00	4.00	3.50	2.33	2.33	2.33	3.00	2.94
Follow-Up	medium	3.86	3.57	3.57	4.00	3.75	2.86	3.10	2.98	3.71	3.48
Reporting	low	3.63	3.50	3.50	3.50	3.53	3.75	3.75	3.75	3.38	3.55
Client Demographics	low	5.00	4.00	4.00	4.00	4.25	3.33	3.33	3.33	5.00	4.19
Aggregate Unduplicated	low	4.00	4.00	4.00	4.00	4.00	5.00	5.00	5.00	4.00	4.33
Client Intake & Exit	medium	4.00	4.00	4.00	4.00	4.00	5.00	5.00	5.00	3.00	4.00
Services Rendered	medium	4.00	4.00	4.00	4.00	4.00	5.00	5.00	5.00	4.00	4.33
Bed Register Capacity	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variety of Built-in Reports	medium	4.00	4.00	4.00	4.00	4.00	3.33	3.33	3.33	3.50	3.61
Reports by Program	medium	4.00	4.00	4.00	4.00	4.00	3.33	3.33	3.33	3.50	3.61
Custom Reports	medium	4.00	4.00	4.00	4.00	4.00	5.00	5.00	5.00	4.00	4.33
HUD APR	low	4.00	3.00	3.00	4.00	3.50	3.33	3.33	3.33	1.00	2.61
Local System Administration	low	2.67	3.00	3.00	3.00	2.92	1.67	2.22	1.94	2.67	2.51
Agency Administration	medium	5.00	5.00	5.00	5.00	5.00	3.33	3.33	3.33	5.00	4.44
Ability to Add Data Elements	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export Mechanisms	low	3.00	4.00	4.00	4.00	3.75	1.67	3.33	2.50	3.00	3.08
Average Results for Criteria	medium	3.86	3.83	3.61	3.99	3.82	3.17	3.25	3.21	3.39	3.47

The result score for each functional evaluation category is graphed in Figure 11. The average ease of use and comprehensiveness scores for all functional evaluation activities are graphed in Figure 12.

Figure 11: MAACLink Functional Activity Scores By Category



Bar graph displaying levels for the following categories: Intake and Exit; Information and Referral; Operations; Client Assessments; Services and Outcome; Reporting; HUD APR; and Local System Administration.

Intake and Exit: The intake is limited but effective. General identification and demographic information are captured on a single screen; however, immigration status, birthplace, and race are not included. Disability, marriage, and veteran are check boxes and, therefore, are limited to yes/no information. Multiple household members can be located and linked together with a designated head of household. All information can be edited later from the main screen in the client profile.

Search at intake is powerful and enables caseworkers to determine quickly if a client is already in the system using name, address, social security, alias, or distinguishing characteristics. Exiting a client from a program is straightforward as well. Exit information includes end date and reason for leaving, but the system does not collect destination related information.

Information and Referral: MAACLink does not include an integrated resource directory; however, a separate, stand-alone software program is available called Directory on Disk. Directory on Disk is searchable and includes relevant agency and program information such as address, phone, contact, and program overview. MAACLink is capable of handling referrals between different programs within an agency. If a client is referred to another agency in the community, the referral details are recorded in the client's case file. However, the destination agency does not receive electronic notice of the referral, nor is the client's record automatically incorporated into the receiving agency's caseload.

Operations: MAACLink includes fairly comprehensive agency accounting functionality. The system enables a community or agency to define and manage a variety of different funding sources. Some key capabilities include the association of funds with specific programs, allocation of funds between programs, ability to make adjustments to program funds, and funding history by service. Service delivery can be quantified by units and dollar amounts, and associated with specific funding sources. MAACLink does not include bed register or housing unit list. MAACLink includes a function for reporting incidents called Crisis Issues that includes a list of incident types, the date of incident, the caseworker who recorded it, and a notes area.

Client Assessments: MAACLink captures general assessment related information over time including residential history, medical information, education status, employment, and social service program enrollment. MAACLink does not offer a service plan tool. However, a range of case management goals is available and date achieved is recorded. MAACLink also has a convenient tool to track the client's sources of income and budget expenses. It automatically computes the household level of poverty and prompts staff about state and Federal programs for which the individual may be eligible based on household income.

Services and Outcomes: Service delivery is easy to navigate and is driven by predefined menu options. Service delivery captures a historical record of the services provided, but is not capable of recording services in process and, therefore, cannot track progress. A managed fund service option ties directly to a funding source so that real-time fund balance may be maintained. Without a funding code, services cannot be entered. Free text case notes are available as well. Outcomes can be recorded either as the description within service delivery or as an update to the client status. However, neither of these methods provides a structured way to retrieve the information for tracking or reporting on outcomes.

Reporting: The standard report options have so much flexibility that there is little need for a custom report writer. See Solution Highlights above.

HUD Annual Progress Report (APR): There is no single APR report option available; however, much of the APR-related information can be obtained by running several of the standard reports. Bed utilization statistics are not available in MAACLink because the system does not have a bed register.

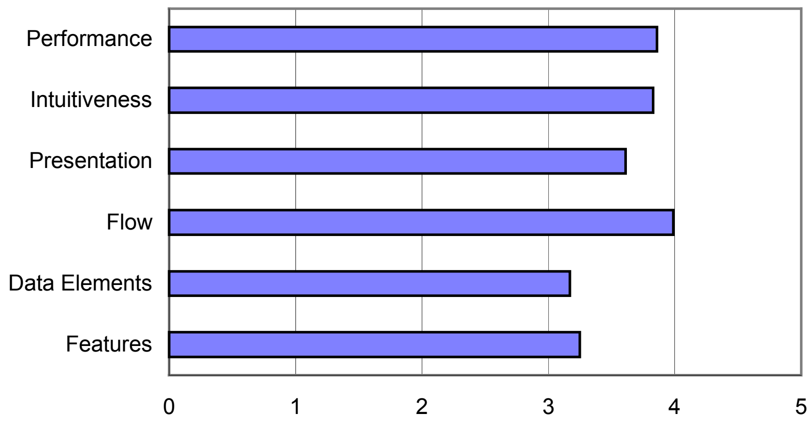
Local System Administration: MAACLink includes comprehensive system administration capabilities available through a separate, designated system administration interface. Configuration and maintenance functionality is available for agencies, programs, funds, user accounts, and system parameters. The system also offers a shadow mode feature allowing a system administrator to remotely assist a user. Data can be exported through the report writer.

Evaluation Criteria Results

Ease of Use: MAACLink runs fast and is very easy to use and navigate. Screen presentation and business processes are consistent making the system intuitive to learn and requiring little training to become proficient. There are two primary modules associated with each client's information: services and programs. The fact that these modules are separate requires a user to move back and forth between the two independent modules frequently. Caseworkers visited in the field commented that ease of use and productivity would be improved if these two modules were combined. The system uses pop-up menus accessed through the F2 key—instead of the more familiar dropdown box—as the primary means of offering options for data entry. Lab testers found this inconvenient.

Comprehensiveness: MAACLink includes features and data elements capable of satisfying many community and agency requirements. The system does not contain extensive functionality and has limited customization capabilities; however, the capabilities that are included work well.

Figure 12: MAACLink Average Ease of Use and Comprehensiveness Scores



Bar graph displaying results for the following categories: Performance, Intuitiveness, Presentation, Flow, Data Elements, and Features.

System Evaluation Results

Data Sharing and Security: MAACLink provides the capability to share data between agencies within a community. Administrators are capable of setting up detailed restrictions determining the different information groups. Passwords expire after a set duration requiring users to periodically reestablish their security code. The solution utilizes 128-bit encryption for data transmission. It does not currently record audit trail information.

Training, Service, and Support: MAACLink training is based on a train-the-trainer model. Training is conducted for system administrators and primary users at initial installation and with major upgrades. Documentation is quite useful yet minimal. Phone and email support are available during normal business hours and service is responsive.

Technical Requirements and Specifications: MAACLink is offered as an Application Service Provider (ASP) hosted at the solution provider's site. The solution uses a Citrix Web Client and a Windows 2000 terminal server to implement a remote interface with a three-tier architecture. The application runs on Microsoft Windows remotely via Citrix and uses a Microsoft SQL Server database.

Server Configuration		
☒ ASP	☐ Licensing	☐ Other
Server(s)	Server/operating environment provided by MAAC.	
Operating System		
Storage		
Server-side Bandwidth Connection		
Security		

Recommended Minimum Agency Hardware Requirements	
User PC:	Pentium, 32 MB RAM, 8 MB HD
Operating System:	
User Internet Connection:	56k Dial-up or better.
Network Architecture and Components:	Citrix

Pricing: MAACLink pricing is based on an annual fee structure calculated by the number of sites, seats and community-wide users. Sites with over five seats are charged per seat. Communities with over 20 concurrent users are charged per additional user.

Start-up fees include a fee per site with an additional per user fees for larger agencies and communities. There is also a one-time server fee per community. Hourly fees are charged for consulting and training.

Solution Pricing[17]	
Server Software License	$ 2,995 per implementation
Per Agency License (Includes 5 users)	$995 per agency
Additional User License	$195 per user
SQL, Citrix, &TSL Licensing	$400 per concurrent user
Hosting: 0-5 seats per agency	$500 per agency per year
Hosting: 6+ seats per agency	$100 per agency per year
Additional Hosting	$195 per additional concurrent user over 20 per community
Consulting	$75 per hour plus travel
Developer Training (if software developer is required to go on site)	$200 per hour plus travel
System Administrator Training	$50 per hour plus travel
User Training	$35 per hour plus travel
Report Customization and Configuration	$120 per hour

The community start-up fee of $2,995 includes: development of separate community database; confidentiality agreements; and assigning individual agency codes, user names, passwords, levels of security, program codes, and fund codes. Limited ongoing technical support is included in the annual fees. Some database and reporting modifications are additional costs. Annual upgrades provide modifications that are available system-wide at no additional cost.

Additional Considerations

MAACLink was developed to support the Kansas City Continuum and is an integral part of the community. The solution as tested is best suited for small to mid-sized communities that are particularly interested in tracking how funds are used to deliver services or provide emergency assistance and in identifying predictors leading to homelessness. The upgraded version incorporating APR elements should make the product better suited for HUD's Continuum of Care.

Solution Provider Commentary

> MAACLink was developed long before HUD required an HMIS to help social service agencies provide effective and efficient service to low-income citizens. MAACLink is a community catalyst for collaboration, not merely a computer information system. It is a cost-effective management information system since it is centrally hosted. Participating agencies need only a PC and Internet access. Hosting fees are kept at a minimum to encourage widespread participation. The Mid America

[17] Note: Prices listed were compiled in preparation for the publication of this report. Prices are subject to change at any time. Chapter Four includes comparative cost of operation information.

Assistance Coalition maintains the hardware and software. Software enhancements and hardware upgrades are available system-wide at no additional cost. MAACLink users provide feedback monthly in user group meetings conducted by the Mid America Assistance Coalition staff. The system is truly designed to meet the practical needs of intake staff, program managers, development directors, and executive directors, in addition to HUD required data collection. During the past year, 12 enhancements were made to the system in response to agency requests.

The data structure supports the "strength-based" homeless case management system that the Kansas City community adopted to break the cycle of homelessness. The strength-based model relies on participants setting goals and identifying milestones to document progress and outcomes, not predetermined formal service plans. MAACLink's focus on the prevention aspects (food, utility assistance, rental assistance) provides the ability to identify those at greatest risk of becoming homeless to avert this crisis. It truly meets the information needs of the entire Continuum of Care.

MAACLink is an easy to use, but comprehensive real-time information sharing system. There is unlimited opportunity for customization with the addition of codes for services, funds, programs, and statuses. The Citrix technology provides the highest level of security possible. Citrix also provides a "shadowing" feature for on-line technical assistance for end users.

New Features Added Since Review:

MAACLink has added all data elements that are required for the HUD APR. The APR will be a standard report that will be automatically generated from MAACLink by mid-2003.

In response to users' suggestions, a "toggle" switch was added so that information about services and programs for the same client could be entered more easily. Services and Programs are two separate modules, but with this feature case managers can readily view services that have been received by a case management participant from emergency assistance agencies. Emergency assistance agency staffs do not have access to the Program module as a rule.

SocialServe.com has been brought to the Kansas City area by Fannie Mae to provide a multiple listing of available affordable housing units. Landlords utilize socialserve.com to advertise housing opportunities through a web-based link with MAACLink agencies.

Planned Enhancements:

A Bed Registry is under construction and will be available for testing November 30, 2002. It will be fully operational by January 1, 2003. Bed registry information includes family status, household member information, causes of homelessness, reason not placed, county, referral source, and services required. This registry will be used in conjunction with a new Information and Referral feature designed for our community's Hotline for the Homeless. The hotline will pre-register those seeking emergency shelter from the appropriate accommodation configuration depending on the family demographics (single male, parent with child, etc.). Once the person who is pre-registered checks into the assigned shelter, an actual service is recorded and the transaction is completed.

Additional Features:

Bulletin Board: MAACLink contains a bulletin board for community-wide communication that is displayed upon sign-in.

Email: Reports can be automatically emailed through the MAACLink system

Letters of Direction/Payment Features in Fund Management: MAACLink's fund management system prepares letters of direction or payment for vendors.

Multi-Site Administration of Funds: Multi-site administrators can distribute and account for funds at several sites through MAACLink's fund management module.

Pop-up Screen for Public Assistance Services: MAACLink automatically calculates the household poverty level and presents a screen with links to public programs for which the client may be eligible based on household income.

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MetSYS™

Company Background

MetSYS Inc. was founded in 1994 as a spin-off from 20-year old Pacific Management and Research Associates (PMRA), which specializes in cross-agency collaboration and service integration. The company's focus is to provide software and services to support the one-stop shopping model of human services – that is, developing computer and internet-based systems for the management of clients and services among multiple agencies. The company's mission is to use technology to empower individuals – both clients with choice and access, and staff with comprehensive and efficient tools. MetSYS is currently used in Texas, Nevada, Kentucky, and Florida, as well as other locations.

Product Background

The development of MetSYS began in 1994 with a Windows-based application that was designed to meet the needs of human service providers through the electronic integration of information and referral into the case management process. MetSYS released a browser-based version in its third release in 2000. Most recently, in 2002, MetSYS released version 4.5 of the application along with MetLITE, a scaled down and less costly HTML version that is fully compatible with the comprehensive version of MetSYS.

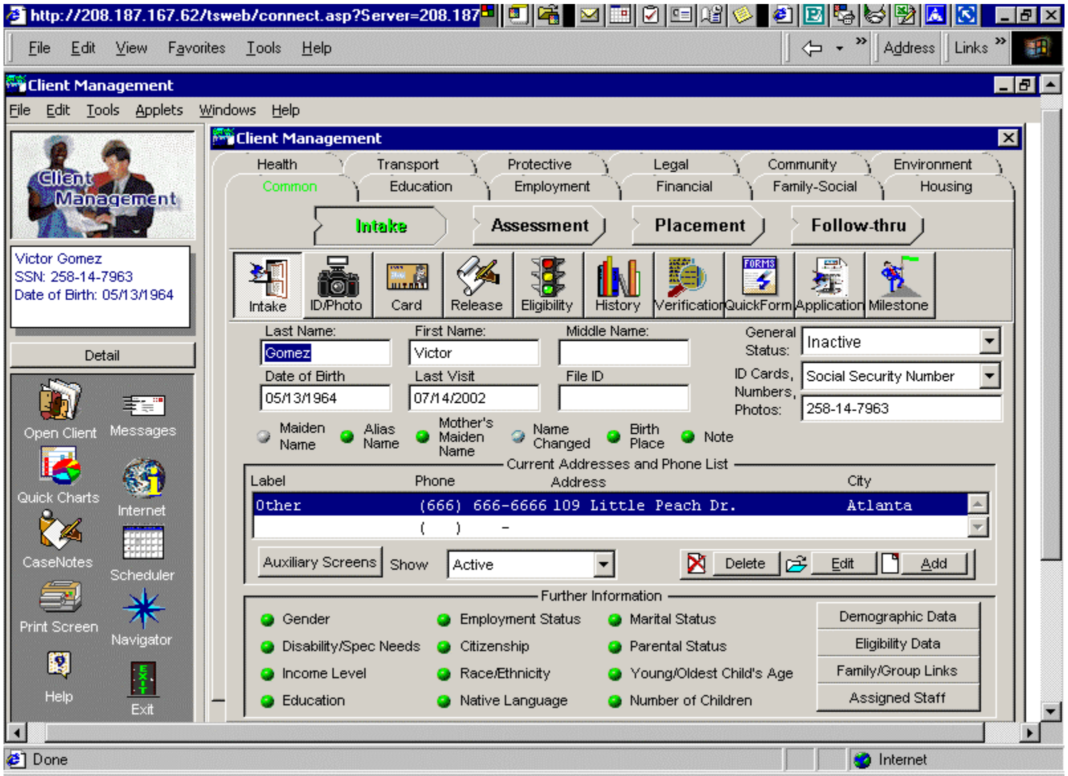
Solution Highlights

Customization: Users of MetSYS can create new screens and data elements. Each implementation of MetSYS can be customized to show only the user-selected features, screen, components, and data elements. The system can be customized for programs or individual users.

Information and Referral: MetSYS captures comprehensive data about any program or agency categorized by service type. Extensive information can be captured through the automated referral process with the additional functionality of an online messaging system as well as email notification of service referrals between agencies.

Automated Benefit Eligibility: MetSYS has an integrated eligibility component for programs and/or funding sources. Advanced users can create programs specifics and establish eligibility criteria. The solution contains a feature identifying programs for which the client is eligible.

The graphic below is a screen shot of MetSYS' HMIS, specifically the screen that displays client management information such as name and address.



Functional Activity Results

Table 12 displays the lab evaluation scores for each of the functional evaluation activities by the evaluation criteria. The result scores reported in the last column reflect the average of the overall impression, average ease of use, and average comprehensiveness scores for each functional evaluation activity. Note that ease of use and comprehensiveness are often competing concerns, which may be blurred by only examining average results. Overall criteria averages are shown in the last row. While the category averages factor in all activities in the category, the overall criteria averages do not factor in activities when the scores are zero.

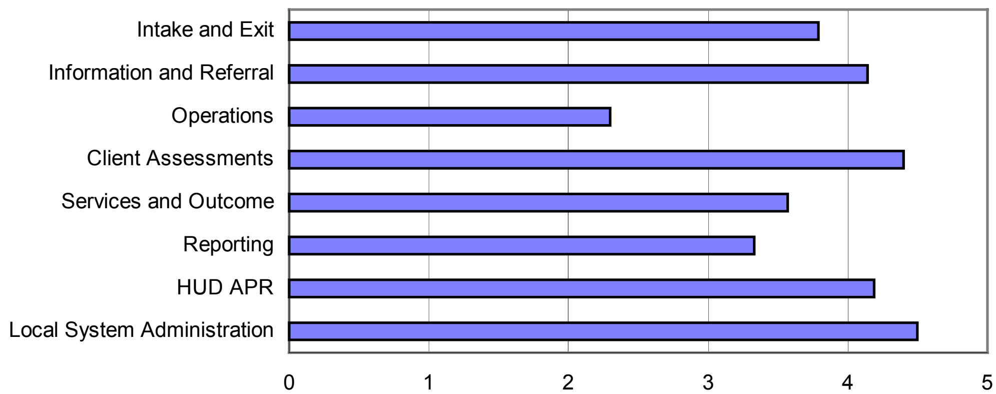
The following scale is used: 0 (not present in the solution reviewed); 1 (poor); 2 (fair); 3 (good); 4 (very good); and 5 (excellent).

Table 12: MetSYS Result Scores

Functional Activity	Data Entry Required	Performance	Intuitiveness	Presentation	Flow	Average Ease Of Use	Data Elements	Features	Average Comprehensiveness	Overall Impression	Result Score
		Ease of Use Scores					Comprehensiveness Scores				
Intake and Exit	medium	3.97	3.79	3.88	3.73	3.84	3.50	3.78	3.64	3.88	3.79
Client Intake	medium	4.00	4.39	4.26	4.09	4.18	4.49	4.64	4.57	4.44	4.40
Exit Interview	low	3.94	3.19	3.50	3.38	3.50	2.50	2.92	2.71	3.31	3.17
Information and Referral	medium	3.95	4.18	4.37	4.23	4.18	3.83	4.28	4.05	4.19	4.14
Program Eligibility	medium	3.88	4.19	4.69	4.38	4.29	3.91	4.42	4.17	4.27	4.24
Information and Referral	medium	3.88	4.19	4.50	4.13	4.17	4.38	4.79	4.58	4.38	4.38
Recording Client Moves	medium	4.08	4.17	3.92	4.17	4.08	3.19	3.61	3.40	3.92	3.80
Operations	low	2.63	2.17	2.56	2.22	2.40	2.09	2.14	2.12	2.38	2.30
Agency Accounting	low	4.00	3.00	4.00	3.00	3.50	3.33	3.33	3.33	4.00	3.61
Bed Register	low	3.90	3.52	3.67	3.67	3.69	2.94	3.10	3.02	3.14	3.28
Incident Management	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Client Assessments	medium	3.84	4.48	4.45	4.24	4.25	4.23	4.74	4.49	4.46	4.40
Needs Assessment	medium	3.69	4.23	4.38	4.00	4.08	3.97	4.62	4.29	4.31	4.23
Goal Setting	medium	4.00	4.75	4.50	4.50	4.44	4.38	4.79	4.58	4.88	4.63
Service/Treatment Plan	medium	3.84	4.47	4.47	4.21	4.25	4.34	4.82	4.58	4.21	4.35
Services and Outcomes	low	3.83	3.97	3.95	3.79	3.88	2.71	3.44	3.07	3.75	3.57
Service Delivery	medium	4.17	4.08	4.50	4.08	4.21	4.31	4.86	4.58	4.25	4.35
Services Tracking	low	4.00	3.60	4.20	4.00	3.95	3.00	3.67	3.33	4.20	3.83
Outreach	low	3.00	3.00	3.00	3.00	3.00	1.67	1.67	1.67	2.00	2.22
Progress Tracking	low	3.80	3.60	4.00	3.40	3.70	2.33	3.00	2.67	3.60	3.32
Outcomes Measurement	low	4.00	4.80	4.60	4.80	4.55	2.33	4.33	3.33	4.60	4.16
Follow-Up	medium	4.00	4.71	3.43	3.43	3.89	2.62	3.10	2.86	3.86	3.54
Reporting	low	2.75	2.88	3.38	3.00	3.00	3.96	3.75	3.85	3.13	3.33
Client Demographics	low	3.00	4.00	4.00	4.00	3.75	5.00	5.00	5.00	4.00	4.25
Aggregate Unduplicated	low	3.00	3.00	4.00	4.00	3.50	5.00	5.00	5.00	3.00	3.83
Client Intake & Exit	low	3.00	3.00	3.00	3.00	3.00	3.33	3.33	3.33	3.00	3.11
Services Rendered	low	3.00	4.00	4.00	4.00	3.75	3.33	3.33	3.33	4.00	3.69
Bed Register Capacity	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variety of Built-in Reports	medium	3.50	3.50	4.50	3.00	3.63	5.00	4.17	4.58	4.00	4.07
Reports by Program	medium	3.50	3.50	4.50	3.00	3.63	5.00	4.17	4.58	4.00	4.07
Custom Reports	high	3.00	2.00	3.00	3.00	2.75	5.00	5.00	5.00	3.00	3.58
HUD APR	low	5.00	4.00	5.00	3.00	4.25	3.33	3.33	3.33	5.00	4.19
Local System Administration	high	4.33	3.33	4.00	3.67	3.83	5.00	5.00	5.00	4.67	4.50
Agency Administration	medium	5.00	4.00	5.00	4.00	4.50	5.00	5.00	5.00	5.00	4.83
Ability to Add Data Elements	high	4.00	3.00	3.00	4.00	3.50	5.00	5.00	5.00	5.00	4.50
Export Mechanisms	high	4.00	3.00	4.00	3.00	3.50	5.00	5.00	5.00	4.00	4.17
Average Results for Criteria	medium	3.78	3.74	4.06	3.71	3.82	3.84	4.07	3.96	3.98	3.92

The result score for each functional evaluation category is graphed in Figure 13. The average ease of use and comprehensiveness scores for all functional activities are graphed in Figure 14.

Figure 13: MetSYS Functional Activity Scores By Category



Bar graph displaying levels for the following categories: Intake and Exit; Information and Referral; Operations; Client Assessments; Services and Outcome; Reporting; HUD APR; and Local System Administration.

Intake and Exit: Intake information is available visibly all on one screen. Client search functions are flexible including the ability to search for clients based on name, social security number, and an array of other demographic information including language or household income. Household members can be linked very easily through the creation of a household profile. Exit information is captured for program participation including exit date and status.

Information and Referral: MetSYS contains a comprehensive information and referral system. (See Solution Highlights above.) A client can easily be referred to another program. However, changing the client's case manager is more complicated and must be done through the program and service management interface.

Operations: MetSYS contains a mechanism for the assignment of beds. Some lab evaluators found the ability to track the assignment of an individual client to a specific bed on a nightly basis to be cumbersome to setup and maintain. MetSYS also includes the operational capabilities to record funding sources and amounts as well as the cost of specific services. MetSYS does not contain incident tracking.

Client Assessments: The system contains assessment modules that include comprehensive client demographic information, education, health, income, and residential history status. Additionally, household member and household-related information offer a particularly high level of flexibility. Goals and barriers can be identified and linked directly to timelines, requirements, and programs for service delivery. The solution keeps a historical record of client assessments.

Services and Outcomes: Clients can be assigned services either within a program or through an outside agency. Service delivery screens include key milestones that are defined by the caseworker. In addition, monetary disbursements to clients can be tracked. A “follow thru” module provides features allowing caseworkers to update client milestones, referral status, expense accounts and outcomes.

Reporting: MetSYS includes a variety of standard reports including client demographics, which can be flexibly run based upon numerous filters, such as gender, household size, disability, and income. Standard reports include graphs and charts as well as data. Crystal Reports, and two other custom report writers, are integrated into the application. Training is generally required to use Crystal Reports effectively.

HUD Annual Progress Report (APR): The APR is comprehensive, easy, and fast to run. MetSYS includes not only demographic related information, but also the overall program goals, increased skills and income, as well as bed utilization data. The APR can be generated from all organizations in the continuum. The printed version closely resembles the HUD form.

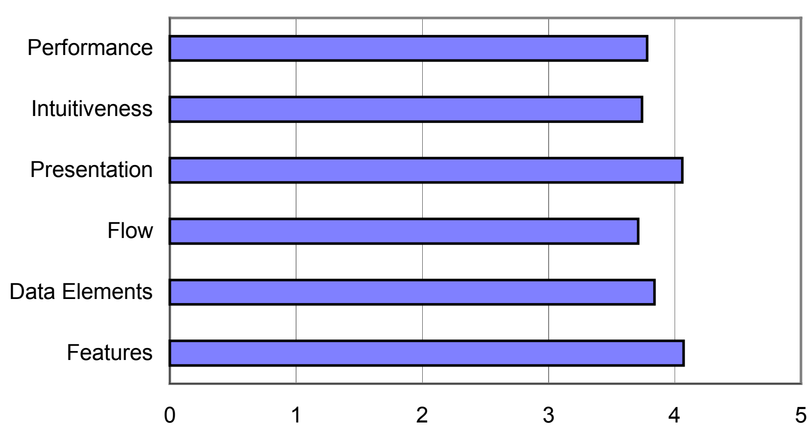
Local System Administration: MetSYS includes extensive system administration capabilities utilizing an entirely Web-based interface. In addition to comprehensive administration of user accounts, program profiles, eligibility criteria, and associated service descriptions, an administrator can add data elements to specific screens and customize the look and feel of screens through a graphical user interface. The system also includes a sophisticated data export tool that can be used for downloading data for migration or analysis. In addition, a tool is included called the “Data Dog” which enables the administrator to easily navigate and comprehend the data schema.

Evaluation Criteria Results

Ease of Use: MetSYS is easy to use considering the degree of data and features included. The structure is well organized into business processes such as intake, assessment, service delivery, and follow up. Individual screens are somewhat cluttered; however, navigation is straightforward and allows a user to move quickly between modules. To simplify navigation even further, users can have a view established that includes only the screens relevant to their job functions. Overall, general performance speed of the system was fast even over a dial up modem; however, a DSL/cable connection is recommended.

Comprehensiveness: MetSYS is a comprehensive system. The solution includes extensive data elements, functionality, and module coverage. Features are well integrated including a spell check function on every screen. The downside of MetSYS’ comprehensive nature, including the many different modules for data entry, is that it may result in data being entered in an inconsistent manner. This issue can be mitigated by limiting user access to screens that prompt for appropriate data.

Figure 14: MetSYS Average Ease of Use and Comprehensiveness Scores



Bar graph displaying results for the following categories: Performance, Intuitiveness, Presentation, Flow, Data Elements, and Features.

System Evaluation Results

Data Sharing and Security: Data sharing is very flexible yet secure. The system allows agencies to determine exactly what data to share in a client's record on a program-by-program basis. Data are secured during transmission over the web via 128- bit encryption. User permissions are powerful and can be established either by group or individual. Standard groups are included and custom groups can be established as needed. Security settings determine a caseworker's ability to view or edit information at the agency, program, or client level. For example, a case worker's permission can be set up to view only certain information such as demographic and services delivered from two agencies within a 10 agency community. Passwords expire after a predefined interval requiring users to regularly change their password for a high level of procedural security.

Training, Service, and Support: MetSYS provides comprehensive training, service, and support. Upon implementation, MetSYS staff members conduct on-site training for both users and system administrators. Additional training is provided for new releases and on an as needed basis in a train-the-trainer format. Documentation and manuals are not only comprehensive but also easy to use. The manuals are available in a hard copy format only. Manuals include instructions with screen shots for both users and system administrators. Data dictionaries are included to assist system administrators and developers. MetSYS support is both phone and email-based, and covers extended business hours based on Pacific Standard Time. Phone support is responsive.

Technical Requirements and Specifications: MetSYS offers two options for delivery: an ASP solution or a licensed solution. The ASP version uses the Terminal Services browser plug-in to create a remote interface accessed through an Internet Explorer web browser; other browsers are not supported. The licensed version allows the database to be set up in either a centralized structure or a distributed structure. MetSYS is written in FoxPro. The web server utilizes IIS with either SQL server or Visual FoxPro database. The ASP format requires that users be connected to the Internet. The licensed version does not require connection to the Internet. MetSYS conducts data migration of historical records if a community needs the service. APIs are available for integration with other information systems.

Recommended Server Configuration	
☒ ASP ☒ Licensing	☒ Other
Server(s):	Pentium Pro 200 MHz or faster, 256 MB RAM, 2 GB HD space free.
Operating System:	Windows NT/2000 Server
Storage:	At least 2 GB free HD space
Server-side Bandwidth Connection:	19.2 kbs per concurrent user
Security:	Hardware firewall

Recommended Minimum Agency Hardware Requirements	
User PC:	PII 300MHz, 128 MB RAM, 500 MB free HD space
Operating System:	Windows 98, ME, 2000, NT, XP
User Internet Connection:	19.2 kbs per concurrent user
Network Architecture and components:	100baseTX

Pricing: MetSYS' costs for hosting services are a leasing arrangement, with startup fees and deposits followed by monthly charges based on the scale and volume of use. Purchase of licenses for local administration entails a one-time cost with annual options for upgrades and continued support.

ASP/Hosting Services[18]:

Startup Charges	
Contract Server Startup Charges:	File Server $3,000 Application Server $500 plus pro-rated fee for added servers
User Workstation Startup Charges:	$200 per user
Organizational Startup Charges:	$250 per organization

Monthly Service Charge for Hosting	MetSYS (Full-Features Enterprise Version)	MetLite (Simplified Version)
Contract Management:	$250 per contract mo.	$250 per contract per mo.
Organizations:	$40 per organization per mo.	$40 per organization per mo.
Concurrent Users:	First 10 users: $60 per mo. Next 20 users: $40 per mo. Next 30 users: $25 per mo. Next 60 users: $20 per mo. Over 120 users: $17.50 per mo.	$12.50 per mo. (the price per user declines with the number of users. The number of users is the maximum users that can use MetSYS at a point in time. No limit on number of passwords)
Data Storage:	$1 per 10 MB per mo.	$1 per 10 MB per mo.
Data Transfer:	$4 per GB per mo.	$4 per GB per mo.

License Purchases:[18]

Server Licenses	
$4,000 each for first and second server licenses (1st LAN System) $3,000 each for third to fifth server license (3rd to 5th LAN System) $2,000 each for over five server licenses (6th or more LAN Systems)	
User/Workstation Licenses	
Concurrent User/Workstation Licenses:	$400 each for the first 10 users $300 each for the next 10 users $250 each for the next 20 users $200 each over 40 users
Single Server Replicator Licenses:	$1,500 each [Stand-Alone System with Download and Upload Options]
Single User Package:	$750 each [Single, Stand Alone User]

Note: A three month advance deposit is required along with setup charges to start services. Travel time and expenses charged for on-site training and support.

Additional support:[18]

End User Training	$850 per day
System Management Workshops	$850 per person
On-Site Support and Planning	$90 per hour
Specifications for Customization and Reports	$90 per hour
Custom Programming, Configurations and Reports	$100 per hour

[18] Note: Prices listed were compiled in preparation for the publication of this report. Prices are subject to change at any time. Chapter Four includes comparative cost of operation information.

Additional Considerations

MetSYS is releasing a scaled down version of the system named MetLITE, which is totally HTML based and available as an ASP service for a lower price than their full-featured product. It will have a simplified design yet remain compatible with the fuller MetSYS solution.

Solution Provider Commentary

Intake and Exit: Both intake and exit screens can be user-designed and selected to meet the specific needs of homeless or other programs.

Information and Referral: Users can find services by text search of titles and descriptions, type of service, schedule, AIRS Taxonomy Services, location and other queries. Matching tools are also available. Regarding case manager assignment, MetSYS automatically “affiliates” a staff with a client when staff actually create a record (e.g., if a staff enters a client record, that staff will automatically become an “Affiliated” staff.) “Affiliation” means that the staff has or is, in some way dealt with or is dealing with the client. New staff affiliations are assigned via the Program Manager Interface. The “Staff Affiliation” button on the Common Intake Screen allows authorized users to designate one of the “affiliated” staff as a “Lead” (e.g., primary case manager).

Operations: While MetSYS does not contain dedicated incident tracking, end-users can use case notes for this purpose or create their own incident tracking screens via the customization tools. “Bed registering” features have been simplified and enhanced by an interim upgrade.

Reporting: Three custom report generators, including Crystal Reports are integrated into the application. Unauthorized access to data through the custom report generators is blocked by encryption. The current MetSYS Report Library includes a community, regional, and organization-specific “Bed Registry Capacity” Report.

Ease of Use: In addition to the customization features mentioned, there is a library of ready-to-use sub-systems that provide program-specific interfaces for homeless and other programs (Workforce Investment Act, Housing Authority, Temporary Assistance to Needy Families, VocRehab, Schools, etc.).

Comprehensiveness: The solution includes over 5,000 data elements covering all areas of human service (including AncHOR fields). There are also options to create over 400 user-defined picklists, dates, memo and character fields.

Training, Service, and Support: In addition to standard support, a 24/7 emergency phone number is provided, and special accommodations are made as needed.

Technical Requirements: Actual recommended specifications are dependant on number of users, number of records in the database and backend database used.

Pricing: Hosting customers pay startup fees but do not have to purchase licenses. Also, MetSYS gives a 75 percent credit on startup costs for the purchase of licenses if our customers decide to run their own systems. Price concessions are commonly made for large scale deployments.

Features and Capacities Not Mentioned in Review. MetSYS has numerous features not mentioned in the review. Some include ID/Swipe Cards, Employer Tracking and Job Development Tools, Skill Profiling, Scheduling Calendar, Client Service Plans, Outcome Measures, Duplicate Client Checks, User-Defined Validity/Edit Checks and ID Photos.

New Features and Planned Development. MetLITE, our scaled down, fully HTML version, is currently available. Features to be available by the release of this report include enhanced waiting lists, case note privacy features and non-editable history and enhance reporting. New features for our next upgrade will include self-service modules (with data quality safeguards), Client PINs, and dedicated incident reports.

PATHWAYS COMPASS by
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PATHWAYS

intelligent, compassionate.

Company Background

Pathways Community Network is a 501(c)3 nonprofit organization[19] born out of a collaborative effort with service providers in the greater Atlanta area. In 1995, the community identified the need to allow homeless service providers to network and share client level records. Pathways Community Network was spawned to support the development of the PATHWAYS COMPASS HMIS solution. Pathways Community Network has a board of directors and a steering committee. The organization provides an Application Service Provider (ASP) product solution including the provision of hosting services, technical assistance and training. Pathways also becomes fully integrated into the community's response to homelessness. They organize and attend regular community and user meetings involving discussions about how additional system features can enhance the community's response to ending homelessness. PATHWAYS COMPASS is currently in use in Tampa, Florida; Yellowstone County, Montana; and Metropolitan Atlanta, with implementation expanding to the rest of the state of Georgia.

Product Background

With a start up development grant from the Whitehead (Coca-Cola) foundation, PATHWAYS COMPASS was developed in 1998. The community partners in the greater Atlanta area were involved in the design of the PATHWAYS COMPASS system, ensuring that development was geared toward the actual use and implementation of the system in a homeless service provider environment. The core values of the development of the system include confidentiality, client self-determination, scalability and security. The alpha version of the product was released in February 1999 and went into production April 1999. The system is now in version 2.0 and runs as a subscription service. Further development will focus on bringing the product into Health Insurance Portability and Accountability Act (HIPAA) compliance as well as the addition of features that will enable providers to communicate directly with each other via same time conferencing and calendar interfacing. The development of the product is driven by the needs of the user community.

Solution Highlights

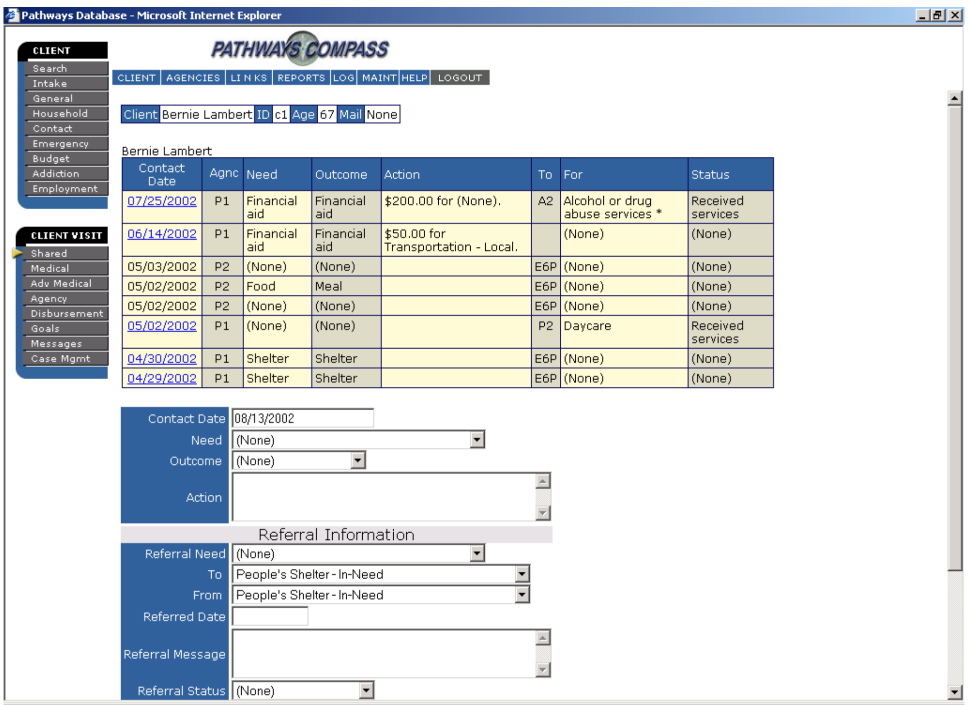
Case Management: PATHWAYS COMPASS was designed to be an integrated shared system that provides case managers with the ability to share client as well as service records between agencies. PATHWAYS COMPASS' main strength includes the ability for a service provider to identify client needs and the corresponding services that were provided to the client both in house or through an outside referral. By sharing this information between service provider organizations, PATHWAYS COMPASS allows case mangers to more effectively plan for the delivery of services, evaluate the appropriateness of the service based upon outcomes, and ultimately decrease duplication in service delivery.

[19] Appendix C describes corporation types.

Wireless Outreach: PATHWAYS COMPASS is one of the few products that includes the ability to run their application via a wireless network. The application, "Wireless Outreach Worker," was originally developed for use by street outreach staff to document encounters, intakes, service needs, provision, and referrals provided to clients on the street. This functionality has more recently begun to be utilized by health care facilities. This technology uses PDA's (Personal Digital Assistants such as Palm Pilots) that have a wireless connection to the Web.

Bug Tracking System: Pathways has implemented an automated bug tracking system that allows users the flexibility of reporting bugs via an online application. Users can report and check on status of bugs via any Internet connection with proper authorization.

The graphic below is a screen shot of PATHWAYS COMPASS' HMIS, specifically the screen that displays contact dates, service needs, and actions for a client.



Functional Activity Results

Table 13 displays the lab evaluation scores for each of the functional evaluation activities by the evaluation criteria. The result scores reported in the last column reflect the average of the overall impression, average ease of use, and average comprehensives scores for each functional evaluation activity. Note that ease of use and comprehensiveness are often competing concerns, which may be blurred by only examining average results. Overall criteria averages are shown in the last row. While the category averages factor in all activities in the category, the overall criteria averages do not factor in activities when the scores are zero.

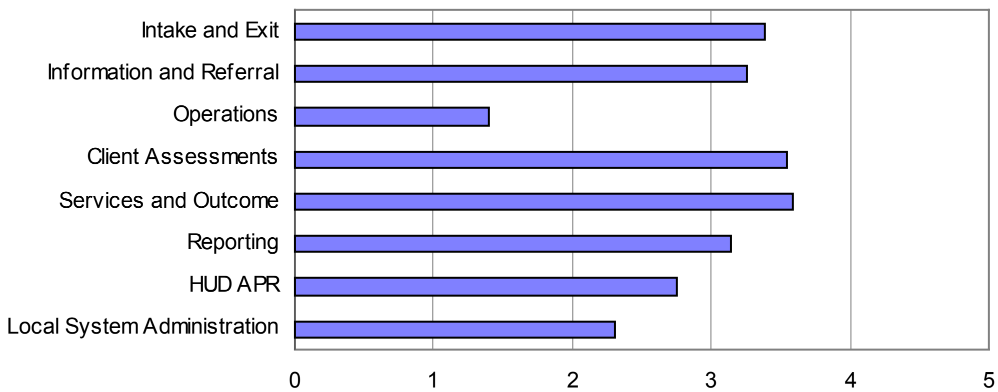
The following scale is used: 0 (not present in the solution reviewed); 1 (poor); 2 (fair); 3 (good); 4 (very good); and 5 (excellent).

Table 13: PATHWAYS COMPASS Result Scores

Functional Activity	Data Entry Required	Performance	Intuitiveness	Presentation	Flow	Average Ease Of Use	Data Elements	Features	Average Comprehensiveness	Overall Impression	Result Score
		Ease of Use Scores					Comprehensiveness Scores				
Intake and Exit	low		3.58	3.94	3.83	3.80	2.76	2.93	2.85	3.49	3.38
Client Intake	medium	4.00	4.08	4.08	4.00	4.04	3.33	3.26	3.30	3.91	3.75
Exit Interview	low	3.73	3.07	3.80	3.67	3.57	2.19	2.60	2.40	3.06	3.01
Information and Referral	medium	3.37	3.35	3.73	3.62	3.52	2.99	2.89	2.94	3.33	3.26
Program Eligibility	medium	2.80	3.00	3.40	3.20	3.10	3.00	2.67	2.83	3.00	2.98
Information and Referral	medium	3.71	3.93	3.79	3.79	3.80	2.82	2.86	2.84	3.62	3.42
Recording Client Moves	medium	3.60	3.11	4.00	3.89	3.65	3.15	3.15	3.15	3.38	
Operations	low	1.33	1.33	1.33	1.67	1.42	1.11	1.11	1.11	1.67	1.40
Agency Accounting	medium	4.00	4.00	4.00	5.00	4.25	3.33	3.33	3.33	5.00	4.19
Bed Register	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Incident Management	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	medium	3.85	4.16	4.03	3.93	3.99	2.95	2.99		3.65	3.54
Needs Assessment	medium	3.69	3.54	3.77	3.62	3.65	3.08	2.82	2.95	3.31	3.30
Goal Setting	low	4.00	4.57	4.29	4.14	4.25	2.62	3.10	2.86	3.56	3.55
Service/Treatment Plan	medium	3.87	4.37	4.03	4.03	4.07	3.16	3.06	3.11	4.08	3.75
Services and Outcomes	medium	3.68	3.95	3.73	3.89	3.81		2.96	2.94	4.01	3.59
Service Delivery	low	3.91	4.00	4.00	4.00	3.98	2.67	3.00	2.83	3.91	3.57
Services Tracking	low	3.80	4.00	4.00	4.00	3.95	2.67	3.00	2.83	4.00	
Outreach	medium	4.00	4.00	3.00	4.00	3.75	3.33	3.33	3.33	5.00	4.03
Progress Tracking	low	3.60	3.80	3.80	3.80	3.75	2.67	2.33	2.50	3.80	3.35
Outcomes Measurement	low	3.60	4.20	3.60	3.80	3.80	3.33	3.00	3.17	3.80	3.59
Follow-Up	medium	3.14	3.71	4.00	3.71	3.64	2.86	3.10	2.98	3.57	3.40
Reporting	low	3.25	3.38	2.88	3.00	3.13	2.92	2.92	2.92	3.38	3.14
Client Demographics	medium	4.00	4.00	3.00	4.00	3.75	3.33	3.33	3.33	4.00	3.69
Aggregate Unduplicated	medium	4.00	3.00	4.00	4.00	3.75	3.33	3.33	3.33	4.00	3.69
Client Intake & Exit	medium	4.00	5.00	4.00	4.00	4.25	5.00	3.33	4.17	5.00	4.47
Services Rendered	medium	4.00	5.00	4.00	4.00	4.25	5.00	3.33	4.17	4.00	4.14
Bed Register Capacity	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variety of Built-in Reports	low	5.00	5.00	4.00	4.00	4.50	3.33	5.00	4.17	5.00	4.56
Reports by Program	low	5.00	5.00	4.00	4.00	4.50	3.33	5.00	4.17	5.00	4.56
Custom Reports	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HUD APR	low	3.00	3.00	2.00	3.00	2.75	1.67	4.33	3.00	2.50	2.75
Local System Administration	low	3.00	2.33	3.00	2.33	2.67		2.22	1.94	2.33	2.31
Agency Administration	low	3.00	2.00	3.00	3.00	2.75	1.67	1.67	1.67	2.00	2.14
Ability to Add Data Elements	low	2.00	3.00	3.00	2.00	2.50	1.67	1.67	1.67	2.00	2.06
Export Mechanisms	low	4.00	2.00	3.00	2.00	2.75	1.67	3.33	2.50	3.00	2.75
Average Results for Criteria	medium	3.74	3.78	3.66	3.71	3.72	2.97	3.16	3.06	3.74	3.51

The result score for each functional evaluation category is graphed in Figure 15. The average ease of use and comprehensiveness scores for all functional activities are graphed in Figure 16.

Figure 15: PATHWAYS COMPASS Functional Activity Scores By Category



Bar graph displaying levels for the following categories: Intake and Exit; Information and Referral; Operations; Client Assessments; Services and Outcome; Reporting; HUD APR; and Local System Administration.

Intake and Exit: PATHWAYS COMPASS was designed to be a shared system wherein data are shared between agencies for service coordination purposes. The client intake module was designed for ease of use and is process driven allowing for logical flow of data entry. A side navigation bar drives the intake process informing users of the step-by-step process they should use to enter information from the intake process. Site visit results indicate that intake data entry is often and easily done while the client is present or during a phone interview. Exit information is tracked through a two-step process based on outcomes of various service program participation and tracks only minimal information including exit status and date.

Information and Referral: PATHWAYS COMPASS includes a resource directory that allows users to see contact information, descriptions, and the types of assistance provided by other agencies in the community, including agencies that are not using PATHWAYS COMPASS. Eligibility requirements for program participation are included in the resource directory. Case managers have the ability to share both electronic referrals and text messages between agencies, thus enhancing the coordination of services.

Operations: There is no bed registration system to track client intake and exit on a nightly basis. PATHWAYS COMPASS contains an accounting component that enables an agency to administer program funds that is linked directly to client disbursements and services. PATHWAYS COMPASS does not include an incident tracking mechanism.

Client Assessments: The system contains assessment modules that capture a snapshot of clients' employment, health, mental health, substance abuse, income, and residential history status. The solution keeps a historical record of client assessments.

Services and Outcomes: The system allows users to identify clients' needs through standardization of a dropdown box. For each need identified, the system includes the ability to track both the status and outcome of the service provided. However, site visit results indicate that many service providers record their services delivered and referred in the case management notes section. Outcomes measurement in the system captures both client goals and outcomes, and includes the ability to plan and follow-up on services provided.

Reporting: PATHWAYS COMPASS includes more than 50 standardized reports, including aggregate client demographics; unduplicated counts; client intake and exit information; services rendered; authorizations received; custom field entries; and disbursements. Response time for reporting data out of the system was very quick. A custom report writing tool is not available.

HUD Annual Progress Report (APR): PATHWAYS COMPASS does not completely produce the APR. Demographic characteristics require compilation and manual calculation of results from six separate reports. In addition, some information, such as the total number of families, is not available. The system does not have the ability to generate capacity, financial, or goals and outcomes measurement. One interesting feature is the presence of separate reports that highlight data entry errors.

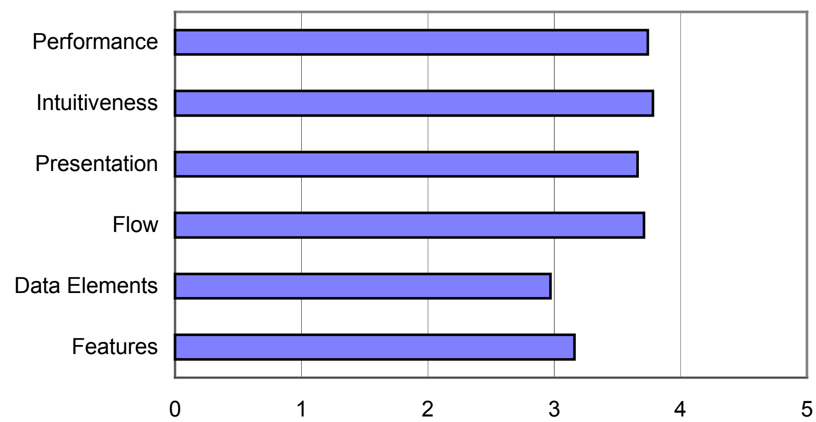
Local System Administration: Pathways staff host and administer all installations, including adding new users. System administration and IT resources are minimal due to the fact that the system does not reside at the local community; however, each community or agency will need to designate a specified point of contact as the primary system administrator. Local system administrators are responsible for entering and maintaining agency information such as location, funding sources, and type of service.

Evaluation Criteria Results

Ease of Use: User feedback and lab evaluation results report that faster Internet connections as well as updated equipment increase the solution's performance processing speed. Overall general performance speed of the system was not an issue. PATHWAYS COMPASS was reported in the lab as better than average for ease of use and intuitiveness for client level data entry; however, some other components were reported as more difficult such as reporting and agency operations. Presentation of screens is clearly laid out and orderly. The navigation bar makes maneuvering through the system easy.

Comprehensiveness: PATHWAYS COMPASS was among the lowest rated systems in features such as validation or automatic population of fields, and it requires very little data entry in most modules. While this may help to keep the system easy to use, it can potentially lead to inaccurate or incomplete data. There is also a consistently small amount of information associated with most activities. Agencies are also only allowed six user defined fields, which limits the ability of agencies to collect additional data. While the system ranks high in the number of data elements it has for employment history, income history, health information, and residential history, it has a minimum number of elements in the areas of basic client demographics, education and military information.

Figure 16: PATHWAYS COMPASS Average Ease of Use and Comprehensiveness Scores



Bar graph displaying results for the following categories: Performance, Intuitiveness, Presentation, Flow, Data Elements, and Features.

System Evaluation Results

Data Sharing and Security: PATHWAYS COMPASS is readily used by service provider organizations that share data between agencies. In order to view personal information, a caseworker must indicate with a checkbox that they have a signed consent form from the client. While some data elements can be shared between agencies, other elements are only available to the agency that entered them. Data are secured during transmission over the web via 128- bit encryption (Verisign SSL). PATHWAYS COMPASS also includes the security features of username and passwords for varying levels of access through predefined user roles. A user's access to more than 25 data subsets and type of access to each of these subsets (view, create, edit) is associated with each user's name and password. Passwords are made inactive after 60 days of non-use. Only administrators can create passwords.

Servers are stored in a secure data center that is protected through firewall access and has an intrusion detection system. The system also records and stores a record of all transactions. Pathways implements redundant server paths, connectivity and power supplies. Sites also reported very little scheduled or unscheduled downtime.

Training, Service, and Support: Pathways implements a comprehensive training, service, and support package. Service is available via email or phone for extended business hours. Available documentation includes a user and system administration manual as well as a data dictionary. Users also have the ability to report and check status of bugs via an online bug reporting utility. Online help and FAQ support is available through the application. Users report that the Pathways staff is very responsive to their needs and bugs are often fixed within several hours.

Pathways staff provides user training on a regular basis at labs available in the service provider community. Confidentiality training including client consent procedures is also provided and required for staff through a university partnership. User training is minimal due to the intuitive nature of the interface; however, communities should plan on four to six hours of training per user each year.

Technical Requirements and Specifications: Pathways is an ASP that hosts the database in a secure off site location (SBC Southern Bell Communications). PATHWAYS COMPASS is written in Java and uses Silverstream for development. The application server utilizes Silverstream eXtend with an Oracle 9i database. The system requires that users be connected to the Internet. The type of connection is important as dial up modems were reported as having moderate response time. Speed noticeably increased with faster connections as recommended by Pathways. Pathways strongly discourages migration of historical records into PATHWAYS COMPASS from existing systems due to liability issues.

Server Configuration		
☒ ASP	☐ Licensing	☐ Other
Server(s)	Server/operating environment provided by Pathways in a secure data center with firewall and intrusion detection.	
Operating System		
Storage		
Server-side Bandwidth Connection		
Security		

Recommended Minimum Agency Hardware Requirements	
User PC:	Pentium 75 or equivalent. Disk space and memory sufficient to run a web browser.
Operating System:	Windows or Linux
User Internet Connection:	DSL or better
Network Architecture and Components:	TCP/IP network running the latest hardware.

Pricing: Pathway's pricing is based on the annual budget (excluding capital costs) of each agency that implements the system and is referred to as a Participation Fee. The Participation Fee applies to single-agency installations as well as multi-agency, community implementations. There are no start-up fees. Consulting and training are billed at flat rates.

Participation Fee Schedule:[20]

Agency Budget Range		Annual Fee per Agency
$0	$100,000	$250.00
$100,001	$250,000	$600.00
$250,001	$500,000	$1,200.00
$500,001	$750,000	$1,800.00
$750,001	$1 Million	$2,400.00
$1 Million	$2 Million	$3,600.00
Greater Than $2 Million		$4,800.00

Additional Fees:

Custom Reporting	$100.00 per Hour
Additional Training	$100.00 per Hour
Report Writer Software	$500.00 Single User License

[20] Note: Prices listed were compiled in preparation for the publication of this report. Prices are subject to change at any time. Chapter Four includes comparative cost of operation information.

Additional Considerations

Pathways is committed to and encourages participation by all users in regularly scheduled user groups. User groups identify and prioritize the development process including requests for customization. As one user described, "Pathways is as much a community collaboration as it is a database system."

Solution Provider Commentary

Product Background: Pathways is now HIPAA compliant. Further development will focus on creation of a shelter bed registration module, as well as the addition of features that will enable providers to communicate directly with each other via same time conferencing and calendar interfacing.

Reporting: Pathways now offers users ad hoc reporting functionality via Oracle Discoverer, a robust business intelligence/data warehousing application.

HUD APR: Pathways' APR reports now show the total number of families. The exclusion of a report for APR Question Two was an oversight that has now been corrected. Pathways now offers the following APR related reports: APR Question #2, APR Questions #5 through #10, APR Questions #11 through #15. These questions are answered in their entirety, and do not require any compilation or manual calculation. The Pathways system does not answer questions that are not directly related to HMIS transactions. If a community wishes, Pathways can collect other capacity and financial information in each agency' profile, and reproduce it as part of the APR report.

Local System Administration: The scores for "Local System Administration" in this document primarily reflect the administration done at the community level. Pathways staff does almost all system administration, which is preferred by many communities.

Data Sharing and Security: In addition to the areas of encryption, firewalls and intrusion detection, Pathways is a leader in the area of platform security. Pathways believes that this is the greatest vulnerability of most HMIS solutions. Some other solutions are based on a platform that is highly vulnerable, even with all security measures in place. It is important to investigate platform security during the purchasing process.

Integration Strategy: Pathways is prepared to integrate systems. In December 2001, Pathways made a substantial investment and implemented SilverStream eXtend Composer and eXtend Composer Connectors, a suite of XML integration products that allow the application to interface with a broad range of legacy systems, from mainframes to XML enabled systems.

ROSIE by
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Company Background

Municipal Information Systems Inc. (MISI), a 501(c)4 corporation[21], formed over 28 years ago to meet the data and reporting needs of local city, county, and public housing authorities throughout St. Louis. The company originated to provide technical solutions, support, and assistance to the meet the needs of the social service sector. MISI has also served nine public housing authorities in four states: Texas, Colorado, Missouri and Illinois. MISI also acted as a consultant to HUD in the late 1980s on data processing issues related to public housing.

Product Background

ROSIE was developed as the result of a request for proposals process to design and implement an information system for the centralized intake hotline in St. Louis. The solution was the result of a collaborative effort with community partners identifying priority areas for data collection and reporting. A DOS version of ROSIE was implemented in 1994 and a Windows based version was released in 1999. ROSIE is in its eighth year of operation for the central intake system of the Housing Resource Center Hotline and collaborating agencies throughout St. Louis and St. Louis County. Baltimore, Maryland also began a pilot implementation of ROSIE in 2000 with 14 agencies. Baltimore's implementation currently includes 55 agencies and is in the process of expanding to an additional 34 agencies.

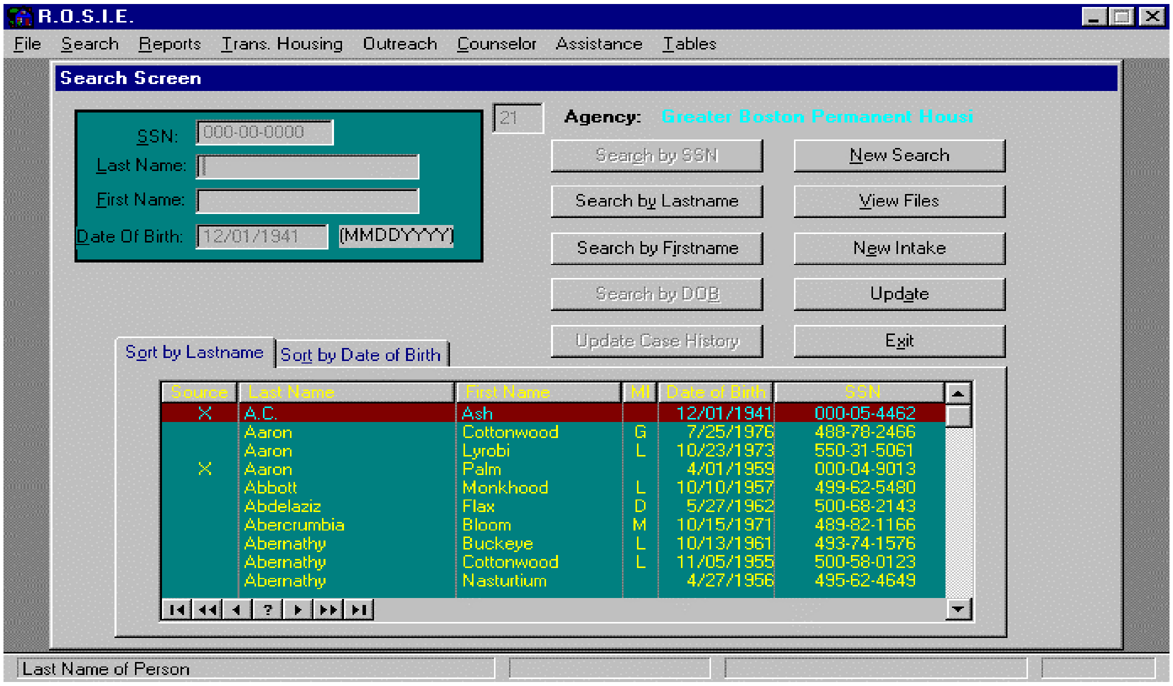
Solution Highlights

Outreach Module: ROSIE contains one of the most developed outreach modules. Information captured in the outreach module is comprehensive and includes client demographics, point of contact, and presenting conditions.

Caseload Management: Each client is assigned a case manager within the system. Case managers have access to their caseload for documenting updated information as well as to schedule follow-up activities (e.g., 30, 60, and 90 days). The caseload is also divided into pending referrals, open referrals, and closed referrals.

[21] Appendix C describes corporation types.

The graphic below is a screen shot of ROSIE's HMIS, specifically the screen that enables searches for information on clients.



Functional Activity Results

Table 14 displays the lab evaluation scores for each of the functional evaluation activities by the evaluation criteria. The result scores reported in the last column reflect the average of the overall impression, average ease of use, and average comprehensiveness scores for each functional evaluation activity. Note that ease of use and comprehensiveness are often competing concerns, which may be blurred by only examining average results. Overall criteria averages are shown in the last row. While the category averages factor in all activities in the category, the overall criteria averages do not factor in activities when the scores are zero.

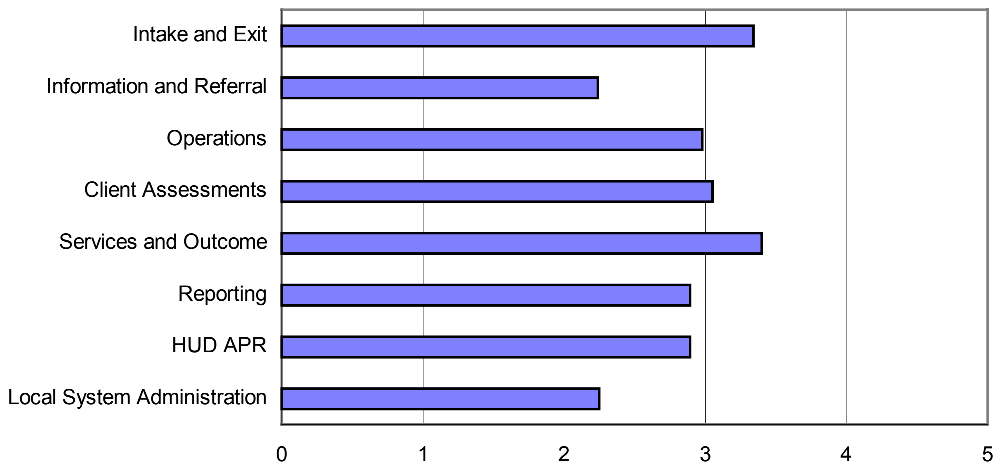
The following scale is used: 0 (not present in the solution reviewed); 1 (poor); 2 (fair); 3 (good); 4 (very good); and 5 (excellent).

Table 14: ROSIE Result Scores

Functional Activity	Data Entry Required	Performance	Intuitiveness	Presentation	Flow	Average Ease Of Use	Data Elements	Features	Average Comprehensiveness	Overall Impression	Result Score
		Ease of Use Scores					Comprehensiveness Scores				
Intake and Exit	medium	3.53	3.42	3.23	3.76	3.48	3.34	3.06	3.20	3.35	3.34
Client Intake	medium	3.58	3.38	3.25	3.58	3.45	3.68	3.13	3.40	3.36	3.40
Exit Interview	medium	3.47	3.47	3.20	3.93	3.52	3.00	3.00	3.00	3.33	3.28
Information and Referral	low	2.51	2.19	2.29	2.47	2.36	2.14	2.04	2.09	2.26	2.24
Program Eligibility	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Information and Referral	medium	3.62	3.38	3.23	3.69	3.48	2.95	2.95	2.95	3.55	3.32
Recording Client Moves	medium	3.91	3.18	3.64	3.73	3.61	3.48	3.18	3.33	3.23	3.39
Operations	medium	3.97	3.13	2.83	3.29	3.30	2.78	2.70	2.74	2.89	2.98
Agency Accounting	medium	4.00	3.00	3.00	3.00	3.25	3.33	3.33	3.33	3.00	3.19
Bed Register	medium	3.90	3.38	3.48	3.86	3.65	3.33	3.10	3.21	3.67	3.51
Incident Management	low	4.00	3.00	2.00	3.00	3.00	1.67	1.67	1.67	2.00	2.22
Client Assessments	low	3.39	2.95	2.70	3.05	3.02	3.12	3.15	3.14	2.98	3.05
Needs Assessment	medium	3.58	3.25	3.00	3.42	3.31	2.92	3.06	2.99	3.33	3.21
Goal Setting	low	3.00	2.00	2.00	2.00	2.25	3.33	3.33	3.33	2.00	2.53
Service/Treatment Plan	medium	3.59	3.59	3.11	3.73	3.51	3.11	3.06	3.09	3.60	3.40
Services and Outcomes	medium	3.57	3.55	3.20	3.77	3.52	3.09	3.40	3.25	3.44	3.40
Service Delivery	medium	3.45	3.27	3.18	3.45	3.34	3.68	3.68	3.68	3.68	3.57
Services Tracking	low	3.60	3.40	3.00	3.40	3.35	3.00	3.00	3.00	3.20	3.18
Outreach	medium	4.00	4.00	4.00	4.00	4.00	3.33	5.00	4.17	4.00	4.06
Progress Tracking	medium	3.60	3.60	3.00	4.00	3.55	2.67	2.67	2.67	3.60	3.27
Outcomes Measurement	medium	3.50	3.75	3.00	3.75	3.50	2.50	2.50	2.50	3.00	3.00
Follow-Up	medium	3.29	3.29	3.00	4.00	3.39	3.33	3.57	3.45	3.14	3.33
Reporting	low	3.38	3.38	2.50	3.38	3.16	3.13	2.92	3.02	2.50	2.89
Client Demographics	low	4.00	4.00	4.00	4.00	4.00	3.33	3.33	3.33	3.00	3.44
Aggregate Unduplicated	low	4.00	4.00	3.00	4.00	3.75	3.33	3.33	3.33	3.00	3.36
Client Intake & Exit	low	4.00	4.00	2.00	4.00	3.50	3.33	3.33	3.33	3.00	3.28
Services Rendered	low	4.00	4.00	2.00	4.00	3.50	3.33	3.33	3.33	3.00	3.28
Bed Register Capacity	low	4.00	4.00	2.00	4.00	3.50	3.33	3.33	3.33	2.00	2.94
Variety of Built-in Reports	medium	3.50	3.50	3.50	3.50	3.50	4.17	3.33	3.75	3.00	3.42
Reports by Program	medium	3.50	3.50	3.50	3.50	3.50	4.17	3.33	3.75	3.00	3.42
Custom Reports	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HUD APR	low	4.00	4.00	4.00	4.00	4.00	1.67	1.67	1.67	3.00	2.89
Local System Administration	low	2.00	2.00	1.67	2.00	1.92	2.78	2.22	2.50	2.33	2.25
Agency Administration	medium	4.00	2.00	2.00	2.00	2.50	3.33	3.33	3.33	3.00	2.94
Ability to Add Data Elements	low	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	2.00	1.56
Export Mechanisms	low	1.00	3.00	2.00	3.00	2.25	3.33	1.67	2.50	2.00	2.25
Average Results for Criteria	low	3.52	3.33	2.89	3.46	3.30	3.12	3.03	3.08	3.03	3.14

The result score for each functional evaluation category is graphed in Figure 17. The average ease of use and comprehensiveness scores for all functional activities are graphed in Figure 18.

Figure 17: ROSIE Functional Activity Scores By Category



Bar graph displaying levels for the following categories: Intake and Exit; Information and Referral; Operations; Client Assessments; Services and Outcome; Reporting; HUD APR; and Local System Administration.

Intake and Exit: ROSIE has the flexibility to allow for a single point of entry into the system, or for multiple points of entry, depending on the service delivery model adopted within a community. It enables service providers to first collect intake and assessment information about clients, and make direct referrals to other service provider organizations, including shelters. Search functions allow users to search for a client already in the system by either first or last name, Social Security number (SSN), or date of birth. When searching on name, the process may require two steps. The program recognizes duplicates by SSN and will not let them be entered. There are over 10 required fields for adding a new client to the system including last permanent address zip code. One menu screen provides easy access to exit information including destination, reason for leaving and exit date.

Information and Referral: A major component of the ROSIE system is information and referral. The system allows the flexibility to provide electronic referrals between agencies. Agencies have the ability to refer clients electronically to other agencies using the system.

Operations: ROSIE's bed availability system stands out among the system features that deal with agency or shelter operations. Users can manage bed registration and availability through the logging of clients into shelter beds. Households can be assigned and reassigned easily to beds based upon room and/or bed type (e.g., double, single, cot, other). ROSIE also includes a limited incident management feature allowing clients to be flagged with a "caution" or a "ban".

Client Assessments: Client assessments are focused on identifying specific needs of a client. The needs assessment process can be accomplished through the case management component of the system, which uses a tab format. Caseworkers can manage caseloads effectively and easily within the system. The core ROSIE package captures residential history, income, education, substance abuse, health, and mental health.

Services and Outcomes: A Case Plan and Service Referrals module incorporates an overview of services provided to a client. Each client's file contains an overview of services and the status of the service delivery, including notes added to the record for services received and in process. A feature called Counselor Caseload provides caseworkers with the ability to manage and plan the clients they work with directly. Users report that ROSIE is strong in tracking client progress. ROSIE has a comprehensive outreach module capturing client demographics, point of contact, and presenting conditions (see Solution Highlights section for details).

Reporting: Three separate categories of reports are available in ROSIE: shelter, service, and program. Shelter reports include monthly shelter reports, shelter referrals, monthly activity reports, and characteristics of residents. Service reports include categories of service delivery as well as service characteristics and demographic of the clients receiving a service in a particular agency. Program reports include many of the same reports as the other two sections just reporting results for clients in particular programs. The system also has the flexibility to run detailed outreach reports. ROSIE incorporates additional reporting features including individual client reports as well as detailed service, program, and agency level reports. ROSIE does not contain an integrated custom report generation tool; however, Crystal Reports can be used as a separate tool to generate reports from data in the system.

HUD APR (Annual Progress Report): Most questions for the APR can be answered in a single report. The report generates the demographic characteristics, income and exit information. The system does not have the ability to generate the financial and/or goals and outcomes questions. The report is formatted in an easily generated and printed four-page document.

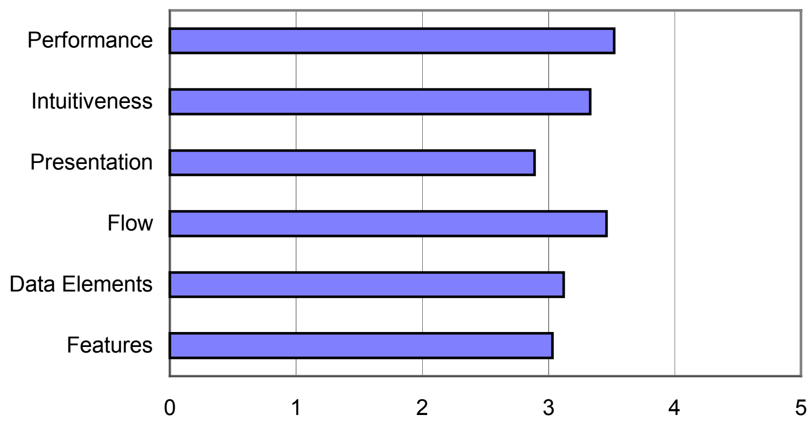
Local System Administration: ROSIE staff prefer to administer the system for each community's implementation. ROSIE staff members provide administration on the addition of data elements, pick lists, and agency and program setup. Once initial set up is complete, local system administrators have the ability to add and delete users, configure pick lists, and perform other basic administration activities.

Evaluation Criteria Results

Ease of Use: ROSIE is a relatively old solution by technology standards. One advantage of this is that it can perform well using older technology such as a dial-up modem. On the other hand, it also has a dated "look and feel." Certain data fields, such as marital status, appear on screens as codes not text. The corresponding text is available by right clicking on the field or hitting the F2 key, instead of using the more familiar dropdown box as a means of offering options for data entry. Lab testers found this inconvenient.

Comprehensiveness: Overall, the strength of ROSIE is its basic data collection and reporting, and not in additional features, functions, and components such as operations, billing, or client notes. It collects a satisfactory amount of primary client data such as demographics, household member information, and residential history. However, it has only minimal coverage of health, substance abuse, and education data.

Figure 18: ROSIE Average Ease of Use and Comprehensiveness Scores



Bar graph displaying results for the following categories: Performance, Intuitiveness, Presentation, Flow, Data Elements, and Features.

System Evaluation Results

Data Sharing and Security: ROSIE is designed to readily share all client data between all agencies using the system. However, data for clients under the age of 18 can only be seen by select agencies. Also, providers who deliver confidential support services related to alcohol or drug abuse, mental or physical healthcare, or other services can record services that cannot be seen by any other agency in the network. Also, if the client is only being served by an agency providing confidential services, the client's record is considered "blind" and cannot be found by any other service provider. Security features also include restricting user level access to certain modules and functions.

Training, Service, and Support: ROSIE staff does regular on-site training sessions with every community utilizing the system. In addition, 24/7, one-on-one support is provided to all ROSIE users through the technical support hotline. ROSIE user meetings have been conducted monthly in St. Louis since 1994. Baltimore also has quarterly user meetings, while the other, smaller, ROSIE installations have meetings on a less frequent basis. In June 2002, ROSIE had its first multi-jurisdictional user meeting for all ROSIE users. They plan to continue this practice in the future. Overall support by ROSIE staff was very responsive.

Technical Requirements and Specifications: MISI is an Application Service Provider (ASP), which hosts ROSIE utilizing Citrix for a remote user interface. The solution can also be licensed. ROSIE is written in Clarion. The system requires that users install a Citrix application on their desktop and connect via the Internet. MISI supports and encourages migration of historical records into ROSIE. ROSIE has developed a strategy for integration with other information systems.

Recommended Server Configuration		
☒ ASP	☒ Licensing	☐ Other

Recommended Server Configuration	
Server(s):	Dual PIII 933 MHz, 1 GB RAM, 40 GB HD
Operating System:	Windows NT/2000 with Citrix MetaFrame
Storage:	RAID 5
Server-side Bandwidth Connection:	T1
Security:	128-bit encryption

Recommended Minimum Agency Hardware Requirements	
User PC:	PII or better, 32 MB RAM, minimal HD space
Operating System:	Windows 9x, 2000
User Internet Connection:	56k Dial-up
Network Architecture and Components:	Citrix

Pricing: Pricing for ROSIE is based on monthly fees for each concurrent connection and additional fees for each computer that is configured to access the solution. Additional fees are charged for customization and training. There is also a one-time initial setup fee per implementation.

Solution Pricing[22]	
Each Computer Accessing ROSIE:	$25 per month
Each Concurrent Connection:	$150 per month
Programming Modifications:	$65 per hour
Initial Setup and Configuration:	$3,000 (one time fee)
Training:	$1,000 per day

Each community's project management plan for ROSIE includes: data hosting services, systems administration, software maintenance, 24/7 technical support, disaster recovery and "hot-site" emergency facilities if necessary. Also, the number of users does not affect the cost of the solution.

Additional Considerations

ROSIE maintains a separate code base for each community implementing the solution. This is an advantage since MISI will customize any aspect of the solution as requested by a particular community. However, this approach raises questions about the overall viability and long-term operational costs of maintaining distinct code bases for each community. For instance, attempts to maintain and upgrade the solution as a whole across all implementations are significantly more difficult than maintenance of a single code base, because ROSIE must integrate the changes for each community individually. The extent to which this becomes a disadvantage to communities is dependent on how ROSIE structures its solution maintenance and upgrade processes.

[22] Note: Prices listed were compiled in preparation for the publication of this report. Prices are subject to change at any time. Chapter Four includes comparative cost of operation information.

Solution Provider Commentary

ROSIE is a comprehensive data management system designed to collect detailed information about the characteristics and service needs of homeless individuals and families. Its integrated client tracking and case management components streamline the steps to accessing services for clients, while enabling providers to leverage their resources to deliver client-centered services in a coordinated and timely manner.

More than just a software application, ROSIE offers communities a custom-made HMIS solution. It can easily and affordably be modified to fit different service delivery models, and is continually enhanced to take advantage of advances in technology.

New Developments:

The two most recent enhancements to ROSIE involve integrating new technology to meet the special needs of specific service providers. The first example is the recent introduction of hand held computers, using wireless modems for the outreach teams working in the City of Baltimore. This new offering gives workers in the field affordable, real-time access to client data. It enables them to review previous assistance given to a client, and determine the availability of additional services, including shelter beds, within a matter of minutes. It also enables the staff to document service delivery in a more timely and efficient manner.

Also, under development is a new voice recognition feature that will allow case managers to dictate case notes to a client file. The new functionality is made possible through voice recognition software configured to work with ROSIE. This new capability will allow case managers to be more detailed in their recording of client notes, while requiring them to spend less time imputing data to the system.

Two new modules will also soon be added to ROSIE. The first is a Program Eligibility component to enable service providers to quickly determine a client's eligibility status for various state and local programs. The new functionality will simplify the process of linking clients with mainstream resources, and strengthen the providers' ability to track the service utilization patterns of clients.

The second addition, an enhanced Information & Referral component, is currently being developed in conjunction with the United Way of Greater St. Louis. The new module will give providers a comprehensive database of community resources to reference in attempting to address specific client needs. Providers will be able to search for services by type, location, or keyword, and receive detailed information about eligibility requirements, fees, contact information, etc.

ROSIE is a complete HMIS solution with data hosting; systems administration, software maintenance and unlimited technical support services included as part of each community's project management plan. It allows communities to delegate the technical aspects of HMIS operation, and stay focused on programmatic issues that strengthen client services and improve agency coordination.

Choosing ROSIE gives communities the opportunity to partner with a service provider experienced in implementing and operating HMIS systems. It means taking advantage of specific expertise in order to reduce hardware and software costs, minimize implementation problems and streamline system operations.

ServicePoint by
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Company Background

Bowman Internet Systems, LLC (Bowman) was founded in 1999. Bowman originally developed the ServicePoint solution to meet the information and reporting needs for the Shreveport, LA Continuum of Care. This effort was led by a key service provider organization, CenterPoint. As development progressed, Bowman broadened their marketing and implementation efforts to other Continua of Care throughout the country. ServicePoint is currently in use in communities such as Louisiana, California, Wisconsin, Michigan, and Washington, D.C.

Product Background

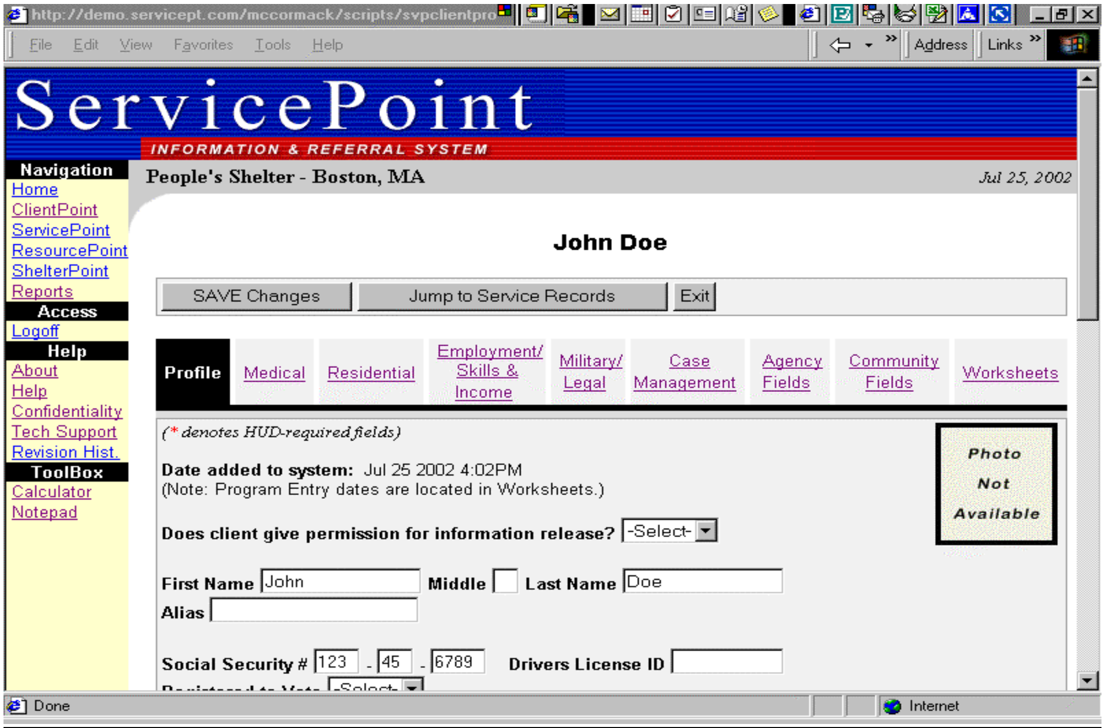
ServicePoint was developed to meet the needs of service providers who wanted a way to capture and share client level data via a web based system. The solution was developed as a result of a community planning process. ServicePoint is available either as a licensed solution or as an Application Service Provider (ASP). The product is sold as an "out-of-the-box" solution, although Bowman supports limited customization and data migration. The product is currently in version 2.04. Version 3.0 is expected to be released at the end of 2002. Bowman convenes periodic user groups to guide their development process.

Solution Highlights

Information and Referral: ServicePoint contains a comprehensive information and referral directory. Agencies can be added and/or updated including information about program location, eligibility, and hours of service. Each agency and/or program is defined by service type in the resource directory according to the AIRS (Alliance of Information and Referral Systems) taxonomy structure. The information and referral component of ServicePoint is directly linked with client records.

Custom Reporting: ServicePoint has a custom report-writing tool contained within the system. All data that are entered into the system can be accessed through the Report Writer for analytical and export purposes. The Report Writer is flexible enough to generate any user-defined report. Users can also create, save, and share ad hoc queries. Use of this tool requires extensive user training.

The graphic below is a screen shot of ServicePoint's HMIS, specifically the screen that displays the available functions such as profile, medical, and residential information for each client.



Functional Activity Results

Table 15 displays the lab evaluation scores for each of the functional evaluation activities by the evaluation criteria. The result scores reported in the last column reflect the average of the overall impression, average ease of use, and average comprehensiveness scores for each functional evaluation activity. Note that ease of use and comprehensiveness are often competing concerns, which may be blurred by only examining average results. Overall criteria averages are shown in the last row. While the category averages factor in all activities in the category, the overall criteria averages do not factor in activities when the scores are zero.

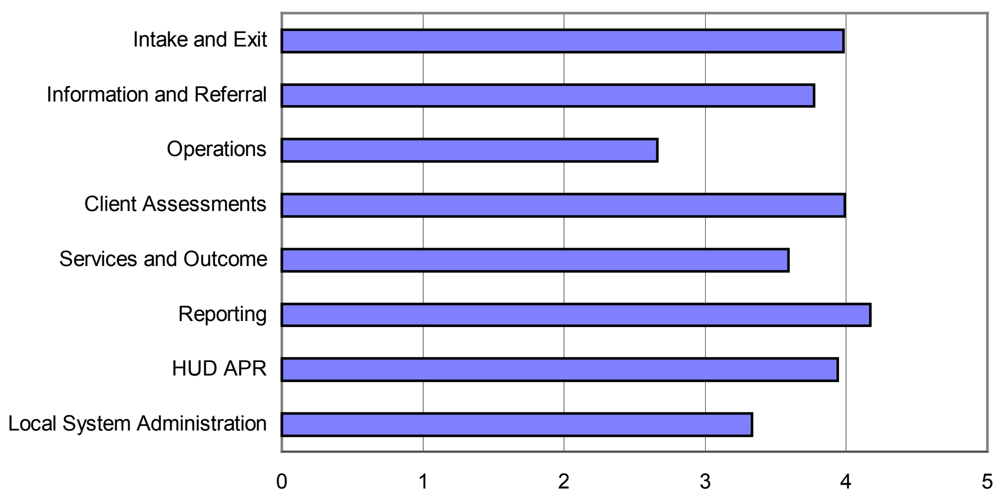
The following scale is used: 0 (not present in the solution reviewed); 1 (poor); 2 (fair); 3 (good); 4 (very good); and 5 (excellent).

Table 15: ServicePoint Result Scores

Functional Activity	Data Entry Required	Performance	Intuitiveness	Presentation	Flow	Average Ease Of Use	Data Elements	Features	Average Comprehensiveness	Overall Impression	Result Score
		Ease of Use Scores					Comprehensiveness Scores				
Intake and Exit	medium	4.08	4.13	4.09	4.02	4.08	3.90	3.66	3.78	4.07	3.98
Client Intake	medium	4.17	4.46	4.04	4.04	4.18	4.03	3.54	3.78	4.13	4.03
Exit Interview	medium	4.00	3.80	4.13	4.00	3.98	3.78	3.78	3.78	4.00	3.92
Information and Referral	medium	3.87	4.07	4.10	3.80	3.96	3.22	3.79	3.50	3.84	3.77
Program Eligibility	medium	3.87	3.20	3.80	3.73	3.65	2.89	2.78	2.83	3.27	3.25
Information and Referral	medium	3.73	4.27	4.00	3.67	3.92	3.44	4.00	3.72	4.07	3.90
Recording Client Moves	medium	4.00	4.75	4.50	4.00	4.31	3.33	4.58	3.96	4.20	4.16
Operations	low	2.70	2.32	2.72	2.60	2.58	3.00	3.00	3.00	2.39	2.66
Agency Accounting	medium	4.00	3.00	4.00	4.00	3.75	5.00	5.00	5.00	3.00	3.92
Bed Register	medium	4.10	3.95	4.15	3.80	4.00	4.00	4.00	4.00	4.16	4.05
Incident Management	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Client Assessments	medium	3.98	4.32	4.18	3.60	4.02	3.50	3.69	3.60	4.37	3.99
Needs Assessment	medium	3.92	4.31	4.00	3.62	3.96	3.46	3.46	3.46	4.17	3.86
Goal Setting	medium	4.00	4.20	4.43	3.18	3.95	3.54	3.75	3.65	4.63	4.07
Service/Treatment Plan	medium	4.03	4.45	4.11	4.00	4.14	3.51	3.86	3.68	4.31	4.05
Services and Outcomes	medium	3.83	3.85	3.91	3.80		3.37	3.38	3.37	3.56	3.59
Service Delivery	medium	4.17	4.50	4.08	4.00	4.19	3.75	4.03	3.89	4.17	4.08
Services Tracking	medium	4.00	4.20	4.20	4.00	4.10	3.67	3.67	3.67	4.40	4.06
Outreach	low	3.00	3.00	3.00	3.00	3.00	1.67	1.67	1.67	2.00	2.22
Progress Tracking	low	4.00	3.60	4.00	4.20	3.95	3.33	3.33	3.33	3.20	3.49
Outcomes Measurement	medium	3.80	4.20	4.20	4.00	4.05	4.00	4.00	4.00	4.00	4.02
Follow-Up	medium	4.00	3.57	4.00	3.57	3.79	3.81	3.57	3.69	3.57	3.68
Reporting	medium	4.19	4.13	4.44	4.00	4.19	4.27	4.27	4.27	4.06	4.17
Client Demographics	medium	4.00	4.00	4.00	4.00	4.00	5.00	5.00	5.00	4.00	4.33
Aggregate Unduplicated	medium	5.00	5.00	5.00	4.00	4.75	3.33	3.33	3.33	5.00	4.36
Client Intake & Exit	medium	4.00	4.00	4.00	4.00	4.00	3.33	3.33	3.33	3.00	3.44
Services Rendered	medium	4.00	4.00	4.00	4.00	4.00	5.00	5.00	5.00	4.00	4.33
Bed Register Capacity	medium	4.00	4.00	4.00	4.00	4.00	5.00	5.00	5.00	4.00	4.33
Variety of Built-in Reports	medium	4.00	4.00	5.00	4.00	4.25	4.17	4.17	4.17	4.00	4.14
Reports by Program	medium	4.00	4.00	5.00	4.00	4.25	4.17	4.17	4.17	4.00	4.14
Custom Reports	medium	4.50	4.00	4.50	4.00	4.25	4.17	4.17	4.17	4.50	4.31
HUD APR	low	4.00	5.00	4.00	5.00	4.50	3.33	3.33	3.33	4.00	3.94
Local System Administration	medium	3.33	3.33	3.33	3.33	3.33	3.33	3.33	3.33	3.33	3.33
Agency Administration	medium	4.00	4.00	3.00	2.00	3.25	5.00	5.00	5.00	4.00	4.08
Ability to Add Data Elements	low	4.00	4.00	3.00	4.00	3.75	1.67	1.67	1.67	2.00	2.47
Export Mechanisms	medium	2.00	2.00	4.00	4.00	3.00	3.33	3.33	3.33	4.00	3.44
Average Results for Criteria	medium	3.94	3.98	4.08	3.85	3.96	3.74	3.80	3.77	3.85	3.86

The result score for each functional activity is graphed in Figure 19. The average ease of use and comprehensiveness scores for all functional activities are graphed in Figure 20.

Figure 19: ServicePoint Functional Activity Scores By Category



Bar graph displaying levels for the following categories: Intake and Exit; Information and Referral; Operations; Client Assessments; Services and Outcome; Reporting; HUD APR; and Local System Administration.

Intake and Exit: ServicePoint was designed to be a shared client-centered intake system. ServicePoint contains a phonetic client search and retrieval function, which verifies that a client is not already in the system before adding a new record. Intake information captured in ServicePoint includes demographics and program participation. Exit information is comprehensive, including program exit status, date, destination, and reason for leaving. The process for entering household member information is not clearly defined. Users are diverted into entering information on a new household member before completing the entering of data for the current household member.

Information and Referral: See Solution Highlights section.

Operations: ServicePoint contains several different ways to perform bed registration. One model is designed to capture nightly bed registration for shelters with high turnover rates each night. The other model is designed to allow longer stay programs, such as transitional housing, to enter information only when the client enters and exits the program. ServicePoint manually tracks cost of service delivered. ServicePoint does not include an incident management module.

Client Assessments: ServicePoint contains comprehensive medical, employment and income, legal, and residential history information. ServicePoint is one of the only systems that collects comprehensive military service history information; however, it lacks comprehensiveness in educational information. All assessment data can be recorded over time.

Services and Outcomes: ServicePoint has the ability to identify the specific services provided to individual clients. Services are identified based upon need and compiled in a service history record. Service records can be shared between agencies to decrease duplication of service delivery. ServicePoint contains a goals and outcomes module that captures clients' goals, and status toward the outcome of education, employment, housing, and treatment. However, goal measurement is not linked to services provided.

Reporting: ServicePoint contains both standard and custom reporting components. Standard reports include audit (e.g., client services, access to client information, and user information), agency (e.g., basic entry/exit, bed list, clients served, and cost of service), and systemwide reports (e.g., clients served, cost of service, outdated resources, referrals, and service transactions). There is not a standard data entry error report. Custom reporting is a key component of the system (see Solution Highlights above).

HUD Annual Progress Report (APR): ServicePoint's APR is generated from the client-specific data that are entered based on involvement in each program. These data are compiled to produce the information for the demographic section of the APR. ServicePoint does not generate financial and/or goals and outcomes information as part of the APR report; however, financial and/or goals and outcomes information can be tracked separately through the case management section of the system.

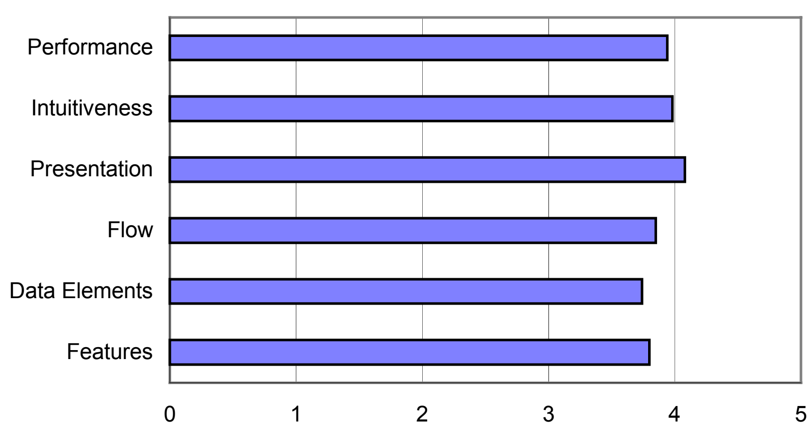
Local System Administration: The system administration component of ServicePoint contains the ability to create users, set up and administer agencies, customize pick lists, and add community or agency data elements. ServicePoint can only accommodate a limited number of user-defined data fields, which can only be added on designated screens in text format. The system contains a shadow mode feature allowing a system administrator to remotely assist a user.

Evaluation Criteria Results

Ease of Use: ServicePoint was rated well for ease of use. The system is intuitive with straightforward presentation and logical flow. Most data elements contain pick lists that ease the data entry process. However, often there are two or more ways to complete an action, which may confuse a user who has inadequate training. ServicePoint was found to be one of the most stable systems.

Comprehensiveness: ServicePoint is a comprehensive application covering the majority of tasks a community undertakes to record homeless service delivery. Many of the assessment categories include comprehensive data elements.

Figure 20: ServicePoint Average Ease of Use and Comprehensiveness Scores



Bar graph displaying results for the following categories: Performance, Intuitiveness, Presentation, Flow, Data Elements, and Features.

System Evaluation Results

Data Sharing and Security: ServicePoint contains many advanced security features. Permissions are assigned by user group only. The system has an idle time out function that requires the user to log back into the system after a set period of time. Also, all passwords expire every 45 days. The sharing feature for client level records is flexible enough to share all, none or part of a client record. Each individual assessment screen has a security feature that permits the sharing of that data with other agencies.

ServicePoint also contains an audit trail feature. ServicePoint has implemented a security component through a partnership with Protegrity that enables database encryption of specific fields and records. The solution also uses 128-bit encryption.

Training, Service, and Support: Bowman provides a set schedule for both user and system administrator training. Bowman prefers to use a local expert to field questions and inquiries before issues get escalated to Bowman staff. System administrator documentation is available; however, there is no user manual. Service is available via phone and email for extended business hours. Bowman also convenes periodic user groups to inform their development process. Currently, there is not a bug tracking system in place.

Technical Requirements and Specifications: ServicePoint is available either as an Application Service Provider (ASP) hosted by the provider at their office location or as a licensed solution. ServicePoint employs a browser-based user interface and is written in PHP. The web server utilizes IIS or Apache with an SQL Server database. The type of connection is important to performance; speed noticeably increased with the Bowman-recommended faster connections. Bowman is an advocate of migrating historical data records into ServicePoint.

Recommended Server Configuration		
☒ ASP	☐ Licensing	☒ Other
Server(s):	Application and Database servers: PIII 1GHz, 1 GB RAM, 36 GB HD	
Operating System:	Windows NT/2000, Linux	
Storage:	DAT tape drives	
Server-side Bandwidth Connection:	T1	
Security:	Firewall	

Recommended Minimum Agency Hardware Requirements	
User PC:	Pentium 933 MHz
Operating System:	
User Internet Connection:	DSL/Cable/T1
Network Architecture and Components:	10/100 NIC

Pricing: Bowman's pricing is based on an annual fee structure calculated by the number of logons/passwords. There is a one-time, start-up fee per implementation. Additional support services are available on a per cost basis.

Solution Pricing[23]	Small Implementation (up to 200 users)	Medium Implementation (200 to 500 users)	Large Implementation (500+ users)
Server Software License	$4,295 (per implementation)	$4,295 (per implementation)	$4,295 (per implementation)
User Licenses (annual)	$225 per user	$200 per user	$175 per user
Monthly hosting fee Shared Co-located	$15 per month per user $760 per month per implementation (1 GB of monthly data transfer)	$12 per month per user $990 per month per implementation (2 GB of monthly data transfer)	$10 per month per user $1275 per month per implementation (5 GB of monthly data transfer)
Support	$56 per year per user (15 hours of support per server license)	$50 per year per user (30 hours of support per server license)	$44 per year per user (75 hours of support per server license)

Additional Fees:[23]

Annual Support	$75 per hour
Data Conversion	$85 per hour upon request
Disaster Recovery Service	contact vendor for specific pricing
Training/Support Fees	contact vendor for specific pricing
Protegrity User Licenses/ Annual Support	contact vendor for specific pricing
Community Guide Website	contact vendor for specific pricing
ServicePoint Escrow	contact vendor for specific pricing
Professional Services	contact vendor for specific pricing

Additional Considerations

Several ServicePoint communities have joined to form their own user group to discuss issues with ServicePoint implementation. This group informs, requests modifications, and provides feedback and input to the development process. This group formally meets with Bowman staff periodically throughout the year. ServicePoint is best implemented in communities that need to manage bed utilizations, integrate information and referral with service provision, and have a high demand for flexible data reporting.

Solution Provider Commentary

Intake and Exit: Each household member is entered as a unique client and linked together through the profile screen.

Operations: Cost of Service and funding source are tracked through the Service Transaction form with a corresponding "canned report". Service Transactions can be allocated across multiple funding sources (up to five). The per unit cost must be predetermined by the agency. Interfacing with agency accounting systems is handled manually either by

[23] Note: Prices listed were compiled in preparation for the publication of this report. Prices are subject to change at any time. Chapter Four includes comparative cost of operation information.

downloading reporting data from report writer or creating custom integration scripts.

Social Services System by
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Company Background

Simplicity Computer Solutions is a for-profit company that was started in 1995. The company originated with the focus of designing custom applications. Approached with the need for designing a social services system, they began development of a modular social services residential information system in 1999. In 2000, they released the first version of the Social Services System, which later became their primary product. The Social Services System is currently in implementation in several social services sectors in Canada. Simplicity is expanding implementation in the U.S. in 2002 with a regional sales office that recently opened in Sarasota, Florida to assist Continua of Care in meeting the congressional HMIS directive.

Product Background

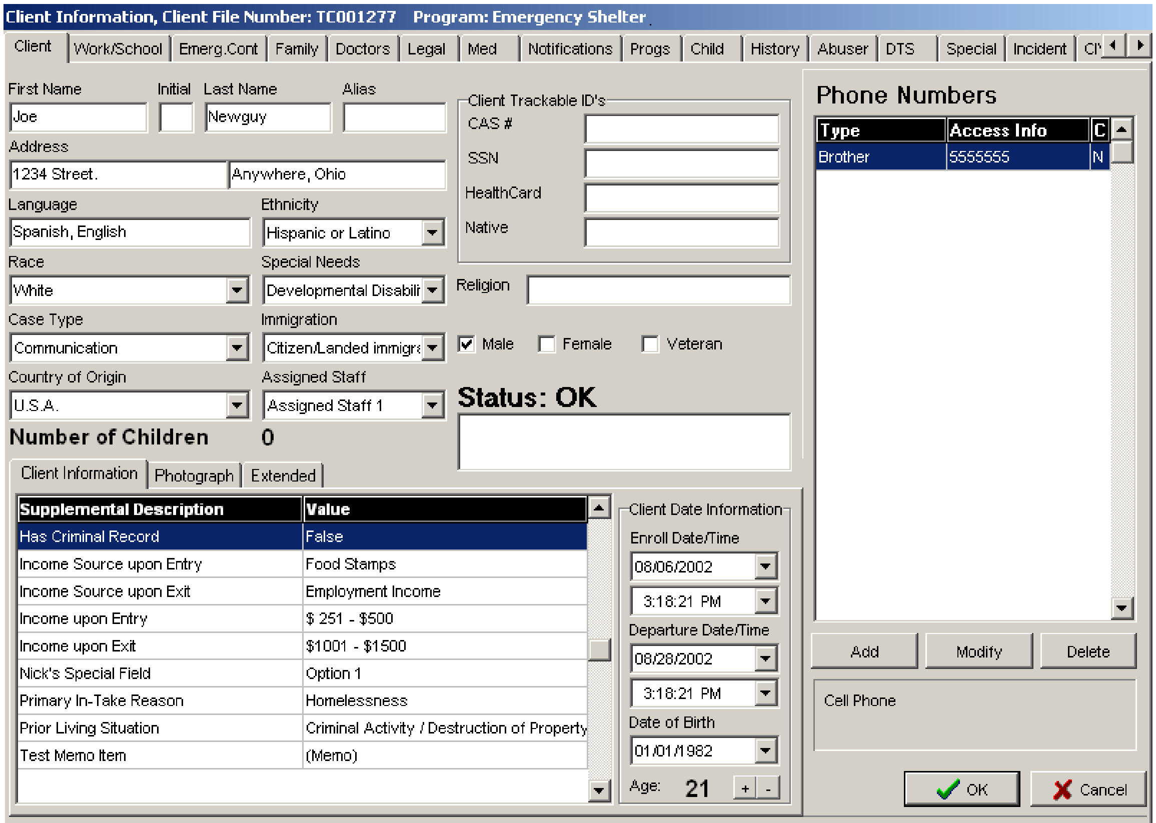
In 1999, a prominent member of the social services community approached Simplicity looking for a custom solution to be used in social services. After finding no products being successfully implemented in Canada, Simplicity worked directly with front line social services staff to assess their needs for gathering information, reporting, and general business process requirements. In 2000, the first version of the system was implemented at Pioneer Youth Services. In 2002, the product was released in an Application Service Provider (ASP) version. The product was developed modularly to meet the needs of an array of social service providers, including youth services, domestic violence, shelter, transitional housing, as well as general social services administration. Each community has a custom implementation, only purchasing and implementing the modules that meet their needs.

Solution Highlights

Human Resources Module: The Social Services System includes a comprehensive human resources module that provides users the functionality of creating staff schedules, tracking hours of service, appointment scheduling and administration, and maintenance of both donor and volunteer databases. The human resources module is a centrally administered rules-based system that can include email notification reminders for follow-up appointments, scheduling, and general administrative functions. The system also contains the functionality to include staff position requirements, salaries and wages, as well as reminder notifications for upgrading training and/or certifications. The human resources module can be linked to other modules for service billing and hours tracking, and can export data into payroll applications.

Domestic Violence Case Management Component: The Social Services System includes specific functionality for domestic violence providers with the Crisis Call Tracking and Abuser Profile System, Lethality Assessment Module, and Client Visual Injury Control System. The Lethality Assessment Module contains a set of indicators that cumulatively assess the risk of the client. The Visual Injury Control is a tool that allows a user to record visible injuries to a specified client.

The graphic below is a screen shot of Social Services System's HMIS, specifically the screen that displays a variety of client information such as name, address, and income.



Functional Activity Results

Table 16 displays the lab evaluation scores for each of the functional evaluation activities by the evaluation criteria. The result scores reported in the last column reflect the average of the overall impression, average ease of use, and average comprehensiveness scores for each functional evaluation activity. Note that ease of use and comprehensiveness are often competing concerns, which may be blurred by only examining average results. Overall criteria averages are shown in the last row. While the category averages factor in all activities in the category, the overall criteria averages do not factor in activities when the scores are zero.

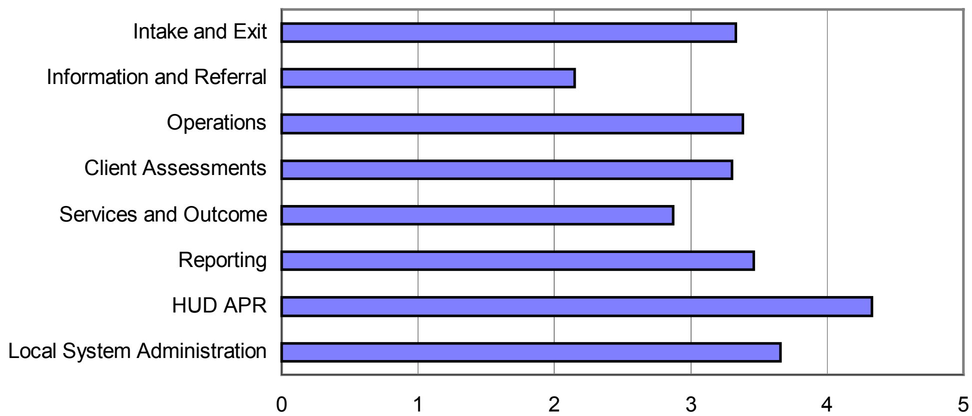
The following scale is used: 0 = not present in the solution reviewed; 1 = poor; 2 = fair; 3= good; 4= very good; and 5 = excellent.

Table 16: Social Services System Result Scores

Functional Activity	Data Entry Required	Performance	Intuitiveness	Presentation	Flow	Average Ease Of Use	Data Elements	Features	Average Comprehensiveness	Overall Impression	Result Score
		Ease of Use Scores					Comprehensiveness Scores				
Intake and Exit	medium	3.21	3.72	3.53	3.74	3.55	3.19	3.04	3.12	3.32	3.33
Client Intake	medium	3.29	3.88	3.38	3.92	3.61	3.68	3.47	3.58	3.52	3.57
Exit Interview	low	3.13	3.56	3.69	3.56	3.48	2.71	2.60	2.66	3.13	3.09
Information and Referral	low	2.22	2.44	2.33	2.61	2.40	1.82	1.77	1.79	2.26	2.15
Program Eligibility	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Information and Referral	medium	3.33	4.17	3.33	4.00	3.71	3.33	3.33	3.33	3.86	3.63
Recording Client Moves	low	3.33	3.17	3.67	3.83	3.50	2.12	1.97	2.05	2.92	2.82
Operations	medium	3.74	3.30	3.42	3.97	3.61	3.13	3.27	3.20	3.33	3.38
Agency Accounting	medium	4.00	3.00	3.00	4.00	3.50	3.33	3.33	3.33	3.00	3.28
Bed Register	low	3.46	3.15	3.77	3.92	3.58	2.31	2.31	2.31	3.00	2.96
Incident Management	medium	3.75	3.75	3.50	4.00	3.75	3.75	4.17	3.96	4.00	3.90
Client Assessments	low	3.14	3.79	3.62	3.82	3.59	3.08	2.86	2.97	3.34	3.30
Needs Assessment	low	3.31	4.00	3.31	3.85	3.62	3.21	3.21	3.21	3.54	3.45
Goal Setting	low	3.00	3.91	3.93	3.91	3.69	3.14	2.38	2.76	3.14	3.20
Service/Treatment Plan	low	3.12	3.47	3.62	3.71	3.48	2.89	2.99	2.94	3.35	3.26
Services and Outcomes	low	3.22	3.33	3.69	3.39	3.41	2.36	2.15	2.26	2.93	2.87
Service Delivery	low	2.82	3.00	3.73	3.36	3.23	1.97	1.97	1.97	2.64	2.61
Services Tracking	low	3.60	3.60	3.80	3.60	3.65	3.00	2.67	2.83	3.20	3.23
Outreach	low	3.00	3.00	3.00	3.00	3.00	1.67	1.67	1.67	2.00	2.22
Progress Tracking	low	3.60	3.40	3.60	3.60	3.55	2.33	2.00	2.17	3.20	2.97
Outcomes Measurement	low	3.00	3.40	4.00	3.20	3.40	2.33	2.00	2.17	3.00	2.86
Follow-Up	low	3.29	3.57	4.00	3.57	3.61	2.86	2.62	2.74	3.57	3.31
Reporting	medium	3.50	3.19	2.81	2.88	3.09	3.85	3.96	3.91	3.38	3.46
Client Demographics	medium	4.00	4.00	3.00	3.00	3.50	5.00	5.00	5.00	4.00	4.17
Aggregate Unduplicated	medium	4.00	4.00	3.00	3.00	3.50	5.00	5.00	5.00	4.00	4.17
Client Intake & Exit	medium	4.00	4.00	3.00	3.00	3.50	5.00	5.00	5.00	4.00	4.17
Services Rendered	medium	4.00	4.00	3.00	3.00	3.50	5.00	5.00	5.00	4.00	4.17
Bed Register Capacity	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variety of Built-in Reports	medium	4.00	3.50	3.50	4.00	3.75	3.33	4.17	3.75	4.00	3.83
Reports by Program	medium	4.00	3.50	3.50	4.00	3.75	3.33	4.17	3.75	4.00	3.83
Custom Reports	medium	4.00	2.50	3.50	3.00	3.25	4.17	3.33	3.75	3.00	3.33
HUD APR	medium	4.00	4.00	4.00	4.00	4.00	5.00		5.00	4.00	4.33
Local System Administration	medium	4.00	2.67	3.33	3.67	3.42	3.89		3.89	3.67	3.66
Agency Administration	high	4.00	3.00	4.00	5.00	4.00	5.00	5.00	5.00	5.00	4.67
Ability to Add Data Elements	medium	4.00	2.00	3.00	3.00	3.00	5.00	5.00	5.00	4.00	4.00
Export Mechanisms	low	4.00	3.00	3.00	3.00	3.25	1.67	1.67	1.67	2.00	2.31
Average Results for Criteria	medium	3.59	3.46	3.47	3.59	3.53	3.41	3.37	3.39	3.45	3.46

The result score for each functional evaluation category is graphed in Figure 21. The average ease of use and comprehensiveness scores for all functional activities are graphed in Figure 22.

Figure 21: Social Services System Functional Activity Scores By Category



Bar graph displaying levels for the following categories: Intake and Exit; Information and Referral; Operations; Client Assessments; Services and Outcome; Reporting; HUD APR; and Local System Administration.

Intake and Exit: The system was designed to be intuitive for case managers and was designed based upon front line staff recommendations. Client data are grouped under tabs. Intake information is logged all on one visual screen including general demographic information. Household member information is entered under the head of household. Exit information, although not required, is recorded under the discharge section and captures information about exit status as well as departure date and time.

Information and Referral: The Social Services System tracks client involvement in both internal as well as external programs and services. The system includes the functionality to record referrals and involvement in appropriate services through a pick list. All of the services are recorded in one centralized Client Transaction History screen. Lab results report the recording of referrals to be a highly intuitive process. The solution does not contain a program eligibility component.

Operations: The Social Services System shows real time bed availability throughout the system of providers. The Social Services System also contains an extremely comprehensive human resources component that tracks staff scheduling, service delivery, hours tracking as well as client appointments and automatic email reminder notifications for these activities. The human resources component feeds directly into a payroll processing software application. The system also includes extensive modules and features for incident management and prevention.

Client Assessments: The assessment component captures many types of contact information (e.g., emergency, family, doctor, legal, work, school) as well as a client's legal history and medical information. Large text boxes also capture special information pertaining to a client's cultural, dietary, disability, and religious circumstances. Social Services System captures very comprehensive information about a client's abusers and injuries. However, only minimal, snapshot information is captured for common categories such as residential history, education, employment and income.

Services and Outcomes: The client assessment module feeds into a Plan of Care section that can be used for goal setting, treatment plan coordination, and follow-up. The Plan of Care includes comprehensive detail relating to a client's current status and circumstance including: any presenting concerns; progress; strengths; short and long term goals; and methods/strategies/indicators for tracking progress on outcomes.

Reporting: The Social Services Systems contains a large quantity of standard reports. There are several categories of reports including client information; government; graphical; information systems; management; staff information; statistical; and trending. Numerous individual client reports are also available including client days in care; goals; prescribed medications; and intake and discharge register. The system also contains the ability to generate incident reports. The Social Services System utilizes a plug and play technology for report writing software. Products such as Crystal Reports or R&R Report Writer can simply be defined within the system configuration to be used as the default reporting engine for an agency or community implementation.

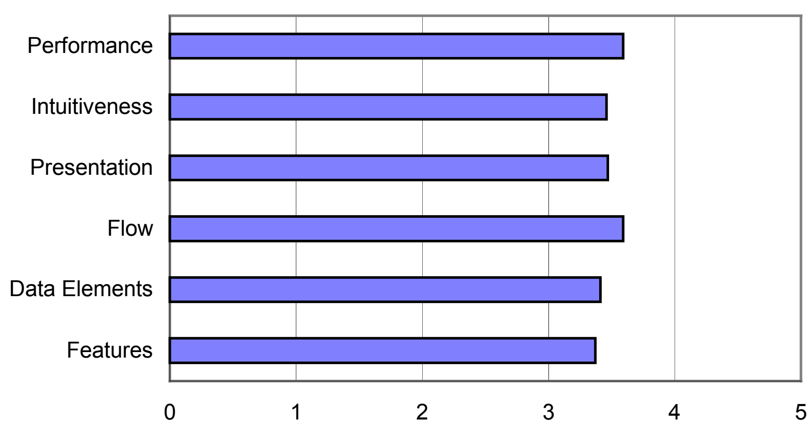
HUD Annual Progress Report (APR): The Social Services System contains a separate APR module. Data not collected during the assessment process can be added in the APR module. The report is automatically generated including all demographic, changes in income, and exit status. The report is created in a template format where capacity, budget, and goals and objectives can be added. The print out of the report closely resembles the HUD format.

Evaluation Criteria Results

Ease of Use: The ASP version of Social Services System was tested in a beta environment. Although site visit results report few performance issues with the non-ASP version, lab test results of the new ASP version reported slowness and lockouts. As the system contains many modules, each installation is customized, allowing only access to the modules the users require. Limited access to only required modules increases the intuitiveness and learning curve of users.

Comprehensiveness: The Social Services System uses a modular approach to providing tools to the user. Each implementation is fully customized to meet the needs of the agency and/or community. Comprehensiveness increases as more modules, tools and options are made available to the user. The modules are designed to be well integrated with one module's functionality, influencing the data and results in other modules.

Figure 22: Social Services System Average Ease of Use and Comprehensiveness Scores



Bar graph displaying results for the following categories: Performance, Intuitiveness, Presentation, Flow, Data Elements, and Features.

System Evaluation Results

Data Sharing and Security: The Social Services System utilizes encrypted logins and optional access control based on the hardware address of the computer being used. Users are assigned to security groups, and permissions and access is based upon user security group assignments. All system events are logged within the Social Services System Transaction Engine. The engine is used for audit trail purposes. The solution utilizes 128-bit encryption for data transmission.

Local System Administration: The Social Services System is a highly configurable system. A staff of implementers is available to assist in system configurations and administration. For each user of the system, an entire profile of the user can be created. Default or custom user groups determine the permissions and level of access to modules for each user. System administrators also have the ability to customize questions and pick lists.

Training, Service, and Support: Simplicity training for the Social Services System focuses on training front line staff. Training focuses not only on proper data entry and how to use the system, but also immediate benefits to the front line worker. Users of the system are also given an Activity Based Training Guide and a System Overview manual. Lab users reported the manual to be well organized, detailed, and intuitive. Numerous screen shots also enhance the usability of the manuals. Phone and email support is also available, and 24-hour support can be purchased.

Technical Requirements and Specifications: Simplicity Social Services System is available as a licensed client/server solution or as an ASP hosted by the provider in a secure off site location. The Social Services System ASP solution was tested using Citrix Web Client and a Windows 2000 terminal server browser plug-ins, which create a remote interface accessed through the web browser. The solution is written in Delphi 6 with a Borland database.

<table>
<tr><th colspan="3">Recommended Server Configuration</th></tr>
<tr><td>☒ ASP</td><td>☒ Licensing</td><td>☒ Other</td></tr>
<tr><td>Server(s):</td><td colspan="2">PIV 1GHz, 512 MB RAM, 2 GB storage</td></tr>
<tr><td>Operating System:</td><td colspan="2">Windows NT Terminal Server</td></tr>
<tr><td>Storage:</td><td colspan="2">2 GB</td></tr>
<tr><td>Server-side Bandwidth Connection:</td><td colspan="2">10Mbit</td></tr>
<tr><td>Security:</td><td colspan="2">Router, Firewall</td></tr>
</table>

Recommended Minimum Agency Hardware Requirements	
User PC:	PIII 500 or better, 128 MB RAM, 1 GB storage
Operating System:	Windows 9x, ME, XP, NT, 2000, Mac OS, UNIX, Solaris
User Internet Connection:	Cable/DSL
Network Architecture and Components:	Router

Pricing: Social Services System is based on a modular pricing scheme. Communities can customize each implementation and purchase only those modules they need. There are both upfront and annual fees that depend on the number of agencies in the implementation. The fee structure is different for the ASP Solution.

Fee Structure:[24]

# of participating agencies	1 to 5 Agencies		6 to 20 Agencies		21 to 50 Agencies		Over 50 Agencies	
Support based on % of Software Cost	18%		18%		18%		18%	
	Upfront	Annual	Upfront	Annual	Upfront	Annual	Upfront	Annual
HMIS Core System – HUD APR Report	$6,000	$1,080	$6,000	$1,080	$6,000	$1,080	$6,000	$1,080
System Module Add Ons								
Dynamic Tracking System	$3,000	$540	$3,000	$540	$2,700	$486	$2,250	$405
Plan of Care System	$1,500	$270	$1,500	$270	$1,350	$243	$1,125	$203
Client Incident Tracking and Trending	$3,000	$540	$3,000	$540	$2,700	$468	$2,500	$450
Web Posting Interface Package	$500	$90	$500	$90	$450	$81	$375	$68
Email Notification System	$1,000	$180	$1,000	$180	$900	$162	$750	$135
Dynamic In-Take System (quick turnover with bed assignment)	$1,000	$180	$1,000	$180	$900	$162	$900	$144
Domestic Violence Module including Crisis Call Tracking, Abuser Profiling and Lethality Assessment	$3,000	$540	$3,000	$540	$2,750	$495	$2,500	$450
Digital Reporting System (paperless solution)	$3,000	$540	$3,000	$540	$2,700	$486	$2,250	$405
Activity Based Costing	$2,500	$450	$2,500	$450	$2,250	$405	$1,875	$338
Integrated Invoicing and General Ledger Fees	$1,000	$180	$1,000	$180	$900	$162	$750	$135
Human Resources/ Staff Scheduling	$5,000	$900	$5,000	$900	$4,500	$810	$3,750	$675
ASP Solution Charges								
Per concurrent user	$300	$300	$200	$200	$200	$200	$200	$200
Setup Fees (per 30 concurrent users)	$3,000		$3,000		$2,500		$2,500	

Additional Fees:[24]

Custom Programming Rates	$800 per day
Training and Implementation	$400 per day

Additional Considerations

The Social Services System is designed to be used across many areas of social services, and Simplicity continues to develop new modules to fit the needs of other areas. Simplicity is one of the few HMIS solution providers that maintain partnerships with providers of domestic violence services. For the purposes of this review, the application was reviewed in a non-configured state that used Canadian

[24] Notes: All fees listed in U.S. dollars; travel expenses are billed extra for on-site visits. Annual support fees are billed on the month after "go live" implementation. Custom programming will be quoted separately. Prices listed were compiled in preparation for the publication of this report. Prices are subject to change at any time. Chapter Four includes comparative cost of operation information.

defaults for the data elements. However, the solution can be delivered with “American defaults,” such as American-style date formats and fields.

Solution Provider Commentary

Simplicity Computer Solutions has been providing a unique approach to quality case and client management since 1995. Started in Toronto, Canada, we have opened an office in Sarasota, Florida to meet the needs of the HMIS congressional mandate.

Simplicity’s team consists of a mix of talented technical developers, project implementation and support specialists as well as social services experts. Our team based approach has added dramatically to our rapid success by remaining focused on the Company’s original vision: offering the most advanced technology in an extremely user-friendly design that ensures an immediate return and a complete solution for all of our clients.

Our Company believes its product will assist your organization both financially and administratively to take a proactive approach in providing the most effective delivery of services for your homeless clients.

We designed and created Social Services Software (SSS) in close collaboration with the end-users, combining their desire for simplicity, flexibility and administrative efficiency with their need for data security and integrity. Management decisions can be enhanced and supported aided by Simplicity’s extensive technology knowledge and industry experience. We go beyond simple case management: SSS is a dynamic client management system.

Built in a modular design, it integrates management tools with treatment planning and facilitation, human resource management, staff scheduling, dynamic tracking, activity based costing and much more.

Simplicity’s SSS data driven design allow for easy integration into existing legacy or regulatory systems. Its flexibility provides an ideal complete solution for homeless shelters, domestic violence agencies, Continua of Care and coalitions. It has the ability of securely linking several agencies, even belonging to different streams of care, and can share data at various levels within a Continuum of Care or at city, county or state levels.

Product Upgrades: Version 3.0 of the Social Services System (scheduled for release on December 2, 2002) includes a comprehensive Referral and Eligibility component. It also removes snapshot data collection and is replaced with multi-record historical accounts for residential history, education, employment and job training, and income data elements. In addition, historical records will be collected on substance abuse/treatment, client health/treatment and military history.

Washington Homeless MIS by
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Company Background

Washington HMIS was developed out of the Office of Community Development of the State of Washington. The product is developed and supported only for State of Washington funded agencies. The product is a Linux open source code solution available for free download. The State of Washington plans further development within its community.

Product Background

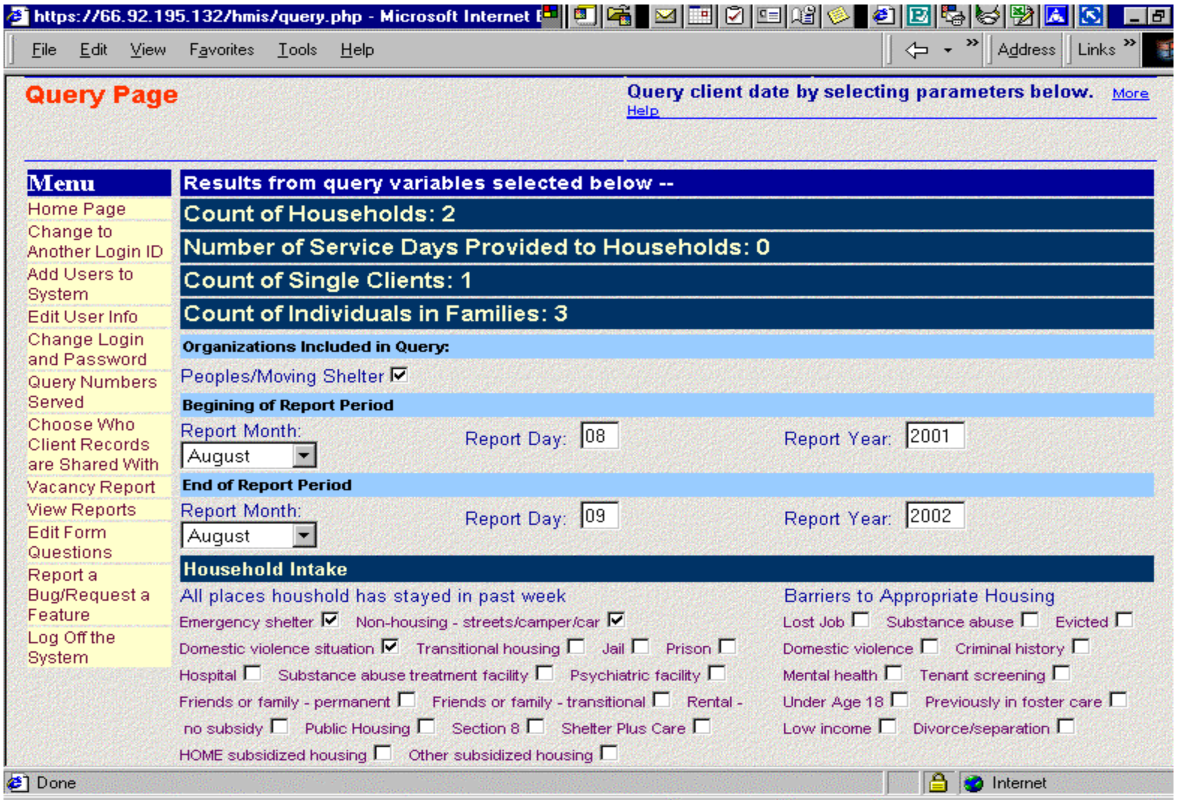
The HMIS was originally developed in 1999 by the State to fulfill reporting requirements by obtaining clean, shelter-level aggregate data from the counties and agencies. The product then evolved to capture client level data during 2001. Development input is mainly from end users. As a freeware product (across implementations), anyone can download the software and develop upgrades. These upgrades can be accepted into the main product.

Solution Highlights

Open Source Code Model: Washington HMIS was created using the open source model. Interested parties can download the solution source code for free. Developers can extend and enhance the code and submit improvements to be accepted into the core application.

Customization: The customization features are central to the Washington HMIS software. Administrators at the agency or community level can create fields of any data type and present them in any form such as pick lists and radio buttons. Changes made through the customization process can be shared with other organizations using the system.

The graphic below is a screen shot of Washington's HMIS, specifically the screen that displays the results of a query the user can perform.



Functional Activity Results

Table 17 displays the lab evaluation scores for each of the functional evaluation activities by the evaluation criteria. The result score reported in the last column reflects the average of the overall impression, average ease of use, and average comprehensiveness scores for each functional evaluation activity. Note that ease of use and comprehensiveness are often competing concerns, which may be blurred by only examining average results. Overall criteria averages are shown in the last row. While the category averages factor in all activities in the category, the overall criteria averages do not factor in activities when the scores are zero.

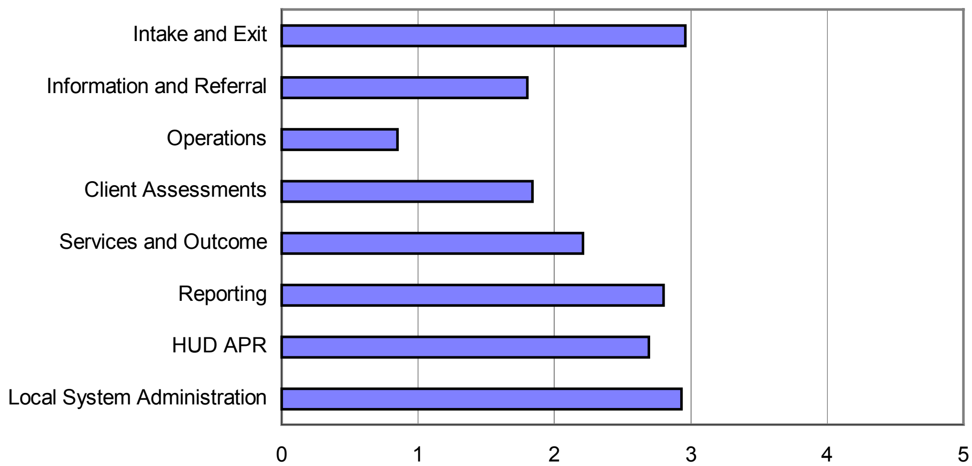
The following scale is used: 0 (not present in the solution reviewed); 1 (poor); 2 (fair); 3 (good); 4 (very good); and 5 (excellent).

Table 17: Washington HMIS Result Scores

Functional Activity	Data Entry Required	Performance	Intuitiveness	Presentation	Flow	Average Ease Of Use	Data Elements	Features	Average Comprehensiveness	Overall Impression	Result Score
		Ease of Use Scores					Comprehensiveness Scores				
Intake and Exit	low	3.61	3.56	3.03	3.32	3.38	2.27	2.51	2.39	3.10	2.96
Client Intake	low	3.48	3.65	3.13	3.43	3.42	2.10	2.46	2.28	3.13	2.94
Exit Interview	low	3.73	3.47	2.93	3.20	3.33	2.44	2.56	2.50	3.07	2.97
Information and Referral	low	2.46	2.53	2.31	2.06	2.34	1.16	1.25	1.20	1.86	1.80
Program Eligibility	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Information and Referral	low	3.80	4.00	3.60	3.00	3.60	1.67	1.67	1.67	2.50	2.59
Recording Client Moves	low	3.58	3.58	3.33	3.17	3.42	1.81	2.08	1.94	3.08	2.81
Operations	low	1.17	1.05	0.97	1.08	1.07	0.60	0.56	0.58	0.92	0.85
Agency Accounting	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bed Register	low	3.50	3.14	2.92	3.23	3.20	1.79	1.67	1.73	2.76	2.56
Incident Management	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Client Assessments	low	2.45	2.29	2.15	2.12	2.25	1.28	1.35	1.31	1.96	1.84
Needs Assessment	low	3.64	3.67	3.33	3.10	3.43	1.94	1.94	1.94	3.00	2.79
Goal Setting	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Service/Treatment Plan	low	3.71	3.20	3.11	3.26	3.32	1.90	2.10	2.00	2.89	2.74
Services and Outcomes	low	2.94	2.67	2.46	2.74	2.70	1.56	1.68	1.62	2.30	2.21
Service Delivery	medium	3.57	2.86	2.86	3.67	3.24	1.67	1.67	1.67	2.57	2.49
Services Tracking	low	3.60	3.00	3.20	3.20	3.25	2.00	2.00	2.00	2.80	2.68
Outreach	low	3.00	3.00	3.00	3.00	3.00	1.67	1.67	1.67	2.00	2.22
Progress Tracking	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Outcomes Measurement	low	3.75	3.00	3.00	3.00	3.19	1.67	1.67	1.67	3.00	2.62
Follow-Up	low	3.71	4.14	2.71	3.57	3.54	2.38	3.10	2.74	3.43	3.23
Reporting	medium	3.63	3.50	3.75	3.75	3.66	2.29	1.67	1.98	2.75	2.80
Client Demographics	high	4.00	3.00	4.00	4.00	3.75	3.33	1.67	2.50	3.00	3.08
Aggregate Unduplicated	medium	4.00	4.00	4.00	4.00	4.00	1.67	1.67	1.67	4.00	3.22
Client Intake & Exit	medium	4.00	4.00	4.00	4.00	4.00	1.67	1.67	1.67	3.00	2.89
Services Rendered	medium	4.00	4.00	4.00	4.00	4.00	1.67	1.67	1.67	3.00	2.89
Bed Register Capacity	low	2.00	4.00	4.00	4.00	3.50	1.67	1.67	1.67	2.00	2.39
Variety of Built-in Reports	low	3.50	3.00	3.00	3.50	3.25	3.33	1.67	2.50	2.50	2.75
Reports by Program	low	3.50	3.00	3.00	3.50	3.25	3.33	1.67	2.50	2.50	2.75
Custom Reports	low	4.00	3.00	4.00	3.00	3.50	1.67	1.67	1.67	2.00	2.39
HUD APR	medium	4.00	2.00	2.00	3.00	2.75	3.33	3.33	3.33	2.00	2.69
Local System Administration	medium	3.00	3.00	2.00	2.67	2.67	2.78	2.78	2.78	3.33	2.93
Agency Administration	low	4.00	3.00	2.00	2.00	2.75	1.67	1.67	1.67	3.00	2.47
Ability to Add Data Elements	high	3.00	4.00	2.00	4.00	3.25	5.00	5.00	5.00	5.00	4.42
Export Mechanisms	high	2.00	2.00	2.00	2.00	2.00	1.67	1.67	1.67	2.00	1.89
Average Results for Criteria	medium	3.55	3.32	3.13	3.33	3.33	2.21	2.07	2.14	2.84	2.77

The result score for each functional evaluation category is graphed in Figure 23. The average ease of use and comprehensiveness scores for all functional activities are graphed in Figure 24.

Figure 23: Washington HMIS Functional Activity Scores By Category



Bar graph displaying levels for the following categories: Intake and Exit; Information and Referral; Operations; Client Assessments; Services and Outcome; Reporting; HUD APR; and Local System Administration.

Intake and Exit: Washington HMIS does not identify clients by name or Social Security number. Rather, each client is entered with initials (first, middle, last) only. Each agency has the ability to add an identifying name and/or code on a field that is not shared with other providers in the system. Fields for both the head of household and household members are entered on a single form. A series of screens prompts a caseworker to enter additional household information such as zip code, type of last residence, barriers to housing placement, and income. Additionally, household background information is captured such as credit rating and criminal history. A discharge form contains information about location and type of placement, reason for leaving and income.

Information and Referral: Each agency posts vacancies at their housing provider organization on a central bulletin board. This agency is not linked to any electronic data within the system, rather it is simply a manual posting. Electronic referrals are available to agencies also participating in the Washington HMIS. Caseworkers at each organization can see a list of referrals made to their organization on a separate view referrals screen. A limitation to the effectiveness of this referral process is that identifying information is not shared between provider organizations.

Operations: The Washington HMIS does not contain a bed register component, incident management, or agency accounting. Due to the customization flexibility of the system, it is relatively easy to add fields to capture some of this information.

Client Assessments: Washington HMIS captures limited assessment information including special needs, income, education level, military status and barriers to appropriate housing. Assessments can be added at either a client or household level.

Services and Outcomes: Services are recorded by need type and date as well as with notes. A client overview screen displays a history of services provided to the client including service provider, data, and service type with the ability to link to the details. There is no goals and outcomes module in the Washington HMIS; however, it can record limited follow-up information.

Reporting: The Washington HMIS does not include pre-formatted reports; however, queries can be generated based upon any combination of data elements in the system. Existing queries can generate statistics on client demographics, services, intake, discharge, and follow-up. A custom reporting writing tool is not available.

HUD Annual Progress Report (APR): The development of the APR is in progress. The system has only the ability to generate the "clients served" question on the report.

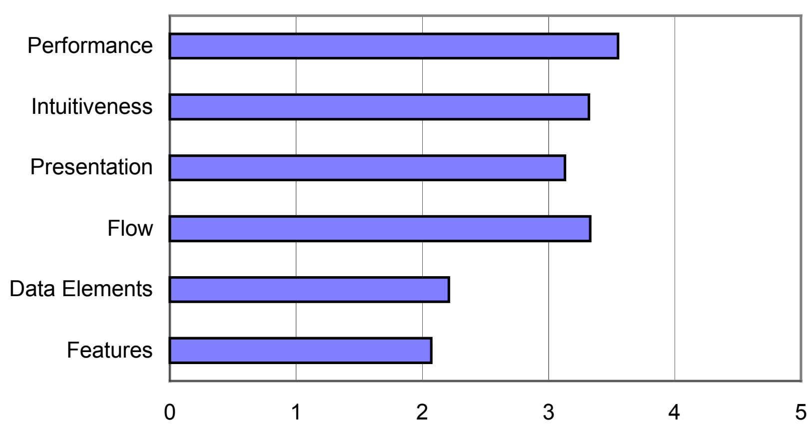
Local System Administration: Implementation of the Washington HMIS requires high-level technical skills including knowledge of Linux, postgreSQL, and Apache web server. The software includes screens for adding users and agencies. Each user may only set up and edit users one level below them in a five-tier hierarchy. This enables a straightforward delegation of power from the lead agency to individual shelters; however, it may be too restrictive for certain implementations. As noted above, customization tools are available to aid in the development process.

Evaluation Criteria Results

Ease of Use: The presentation of the system is automatically generated, adversely affecting its visual appeal. The system lacks a professional design. Response categories, most notably check boxes and radio buttons often have confusing placement. Retrieval of client records is often difficult because no identifying information is entered into the system, except for one identifier text box at each agency.

Comprehensiveness: Without further customization, the Washington HMIS captures very limited client level information. The system does contain validation to ensure the quality of data entered into the system. The system contains few additional features outside of data entry and statistics generation. It also does not have the functionality to assist with agency operations.

Figure 24: Washington HMIS Average Ease of Use and Comprehensiveness Scores



Bar graph displaying results for the following categories: Performance, Intuitiveness, Presentation, Flow, Data Elements, and Features.

System Evaluation Results

Data Sharing and Security: Administrators at each organization can decide which organizations they wish to share their records with. In addition, every data entry form allows the caseworker to choose whether the particular information entered should be shared with other organizations. The Washington HMIS implements SSL certificate management. Client privacy is further ensured by the fact that identifying information (name and Social Security number) is not entered into the system.

Training, Service, and Support: The Washington HMIS contains limited context sensitive online help. Documentation is available for installation of the system. Additional documentation for Linux, Apache, and postgreSQL is available on the web. An online tool is available to document bugs and request features specific to each implementation. Source code will be periodically upgraded. The State of Washington does not provide direct support or training outside of its local implementation.

Technical Requirements and Specifications: The Washington HMIS is a browser-based solution, and has been tested to run on Linux server running Red Hat 7.2 or later with Apache web server and postgreSQL server. The system was written in PHP. Local administrators host the system and will be responsible for the security of the implementation.

Recommended Server Configuration		
☐ ASP	☐ Licensing	☒ Other
Server(s):	1 GHz, 1024 MB RAM	
Operating System:	Any UNIX (BSD, Linux, HP, etc.), Windows NT/2000	
Storage:	110 GB	
Server-side Bandwidth Connection:	1024 mbps	
Security:	Firewall	

Recommended Minimum Agency Hardware Requirements	
User PC:	
Operating System:	Any with a web browser
User Internet Connection:	128 kbps
Network Architecture and Components:	

Pricing: The Washington HMIS solution is available for free. It should be noted the solution is an open source model that requires significant resources for development and maintenance. A community choosing to implement this product will most likely need resources for software development, software administration and maintenance, as well as technical support, training, and documentation. Chapter Four includes comparative cost of operation information.

Additional Considerations

Although the Washington HMIS is free for download, an open source system is not the most appropriate solutions for many communities. Open source development demands significant time and money during the development process and requires a staff with technical expertise at the local level. It should also be noted that significant resources are required for administration, maintenance, data back ups, technical support, training, and the creation of support documentation. Additional resources will also be required for data integration and analysis. In addition, the community or agency is responsible for the cost of servers, LAN infrastructure, and connectivity.

Solution Provider Commentary

None provided.