

MARIN COUNTY CLIENT INDEX: HARNESSING THE POWER OF EXISTING DATA SYSTEMS

Larry Chatmon, Jim Damian, and Robert Manchia*

EXECUTIVE SUMMARY

BACKGROUND

Marin County was faced with a situation not unlike that which confronts almost every county: a plethora of database applications of a mixed variety that do not communicate with one another. This makes it almost impossible to make a unique identification of clients, activities and services across program and department lines. Their solution: build a "Client Index System" which links all data to specific clients and services. This case study focused on Marin County's Client Index system capabilities and attributes, adaptability for other county's use and identification of potential barriers for successful implementation in a single or multi-county environment.

Our three county team strategy in this case study was to advocate for a multi-county system to share resources and to lower the cost for implementation and ongoing maintenance provided the system met the program and service needs of each county.

FINDINGS

After meeting with various Marin County staff in the project development, programming, program services, fiscal and management areas, we found that:

- The "Client Index System" seemed capable of meeting the needs of each county involved in the case study.

- System implementation throughout Marin County's H&HS was not complete.
- The "true costs" of the development and implementation of the system could not be determined.
- Marin County's organizational structure was conducive to the development of the system.

IMPLICATIONS FOR ALAMEDA, SAN FRANCISCO AND SAN MATEO COUNTIES

The team agreed that one of the most significant implications for implementation in our counties was the fact that the organizational structures in our three counties were much different than that in Marin County. We felt that this issue was not insurmountable but would require a great deal of work to bridge across our department lines of authority where Marin County's umbrella structure housed all departments together under one director.

Another important implication suggested that some variation of "Client Index", or even another such system by another organization, could benefit each county for implementation, initially on a "small scale".

BELIEFS

Based on our findings and the implications for each of our counties, these are the most important con-

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clusions that indicate a possibility for the development and implementation of a client index system in Alameda, San Francisco and San Mateo counties:

- The Marin County Client Index (or similar system) will make our services better.
- Executive level commitment is necessary.
- Technology is not a barrier to successful implementation.
- Each individual county's culture and structure must guide the implementation strategy.

RECOMMENDATIONS:

The following recommendations exemplify our desires to develop a collaborative approach but recognize a more practical strategy dictated by the results of our case study. They are:

- * The implementation process for Marin County should be monitored through completion.
- * The return on investment (ROI) must be determined for Client Index to weigh costs/benefits.
- * Other similar client index systems should be evaluated for ROI, cost, etc.
- * BASSC should be explored as the springboard for multi-county system applications.

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INTRODUCTION

SAWS. SAMS. ECura3. CDS. CWS/CMS. AVIS. JTA. CMIPS. CATS. Today's Human Services environment is littered with individual client data management systems. These systems neither communicate with each other nor are social workers and managers able to locate consolidated information about individual clients or generate ad hoc aggregate reports.

Now, imagine a service delivery environment where a client's activity can be viewed chronologically with the touch of a button. This case study explores the tool that makes this service delivery environment a reality.

BACKGROUND

In 1999 Marin County Health & Human Services identified the following problem as a major barrier to optimal service delivery:

“Marin H&HS has more than 40 systems that contain client data, as well as information pertaining to the client's involvements with each program. The systems range from small Access database applications to large, mainframe, state-mandated systems. For the most part, these systems do not communicate with each other, making unique identification of clients impossible. It is a goal of Marin H&HS to be able to identify unique clients, populations served, and co-registration among departmental programs and services.”¹

To resolve this complex problem Marin County has created a real-time, web-based master client index that uniquely identifies all clients receiving services provided by H&HS.

DESCRIPTION OF CLIENT INDEX FEATURES

The Client Index is accessible from any computer that is connected to the World Wide Web. To access the system a user must enter his or her username and password (see Figure 2 in Appendix).

Once logged in, users can view detailed information about individual clients and the services that they have received from H&HS.

Specifically, the Client Index provides:

- An indicator of which programs have had contact with the client
- An accurate, unduplicated listing of clients across all the programs of H&HS
- Statistical reporting capabilities on services furnished.

The Client Index also provides a consistent view of disparate demographic and client information across systems, including:

- Name(s)
- Gender
- Social Security Number
- Ethnicity
- Date of Birth

¹ Marin County Training Document provided by F. Kilby, Sr. Systems Support Analyst.

In addition the Client Index provides users:

- With the ability to search for clients:
 - By name
 - By Social Security Number
 - By Date of Birth
 - By State Client Index
- Reports of distribution of clients by:
 - Location
 - Ethnicity
 - Gender
 - Marital status
 - Age
- Display of activities for each client:
 - Begin and End Dates
 - Contacts
- Browser-based access to the application through the County of Marin Internet using secured connection with SSL (<https>)

Figures 2-5, located in the appendix, outline the 4-step process of using the client index system.

REAL WORLD SCENARIO

Jane Doe is a social worker in the Dependency Investigations unit of the Children and Family Services Department (DCFS). Jane has received a new case (Smith Family) from the Emergency Response unit supervisor. Before Jane schedules a visit to the Smith Family residence, she must first obtain background information on the family, relevant service referrals and other case-related information.

Without the Client Index Website, social worker Jane would have no choice but to prepare for the visit using the following approach:

1. Read all volumes of the hardcopy case file (thousands of pages).

2. Read all information in the Child Welfare System Case Management System (CWS/CMS).
3. Call former social workers and have detailed discussions.
4. Call Smith Family therapist(s) for list of client contacts.
5. Call medical providers for a list of recent services.
6. Call Alcohol and Other Drugs (AOD) service delivery centers to check on client contact and participation.
7. View case history in CDS (or CalWin).
8. Track down referral information in two dozen client data systems.

The above list is only a partial series of steps. However, it accurately illustrates that using dozens of disparate client data systems is an almost insurmountable task.

In Marin County Jane Doe has the ability to prepare thoroughly for case management activities. This preparation involves only three steps:

1. Use the Client Index Web site to obtain a detailed list of the family's activity in the county's umbrella of services.
2. Browse other hardcopy or electronic documents as needed.
3. Have detailed in-person conversations with service providers as needed.

As illustrated in the above scenario, the Client Index Web site allows social workers to gather vast information regarding a client's basic service delivery activity without laborious phone calls to dozens of service delivery providers. The system gathers information from over forty client data systems and displays the data on one simple to navigate Web page. The Client Index provides a simple online list that enables social workers to thoroughly prepare for basic case management activities.

While the Client Index is an excellent resource for frontline case management staff, it is also a powerful management tool.

It allows managers to view instantaneous and accurate service delivery statistics for any given time period and program area. The system accomplishes this through the use of "reporting cubes."

Reporting cubes are dynamic datasets that are viewed using Excel spreadsheets. These cubes allow social service managers in Marin to explore real-time snapshots of the state of the Agency.

In addition to single variant data views the reporting cubes also allow managers to conduct multi-variant reports such as those that track the number of DCFS clients that also receive services from Workforce Programs in any give timeframe.

DATASOURCES

Data comes from the H&HS Systems and a variety of state systems. These systems include:

- InSyst
- State Automated Welfare System
- Senior Assistance Management System

- California Medical Management System
- Case Management Information and Payroll System
- Financial Accounting System
- And many more

A full listing of the 42 data sources used by the Client Index is listed in Chart 1 in the Appendix.

DATA CAPTURE AND CONSOLIDATION

Once data is downloaded from the 42 various data sources (or systems of record) the data is then organized in a data warehouse.

A central mission of Marin's Client Index is to provide "reporting and analysis capability that, at a minimum, permits accurate and easy quantification of unique clients, and a broad view of client demographics across the department."¹ Towards that end, the Client Index system adheres to a very strict scheme in the way that it organizes and stores data.

Moreover, a similarly strict data model is used to represent specific demographic data. This coding scheme is based on well-known standards:

- United States Census Bureau
- United States Postal Service
- International Standard Organization

TECHNICAL SPECIFICATIONS

The Client Index infrastructure exists in a fairly straightforward "client-server" environment.

The system resides in Marin's data center and is outlined in Figure 1 in the Appendix.

¹ Marin County Training Document provided by F. Kilby, Sr. Systems Support Analyst.

The Web server is a dedicated Windows server that uses the Windows Server 2000 operating system and Internet Information Services 5.0. All of the application programming is written in Microsoft's Active Server Page (ASP) programming language and is .NET compatible.

The database server is a dedicated Windows server that uses the Windows Server 2000 operating system. The database type is Microsoft SQL Server 7.0.

Marin uses a "staging-production" model to isolate test code from the production environment. The nature of this configuration meets all of the system redundancy requirements dictated by Marin County and other CWDA social service agencies.

The technical scalability of the Marin Client Index system appears to be solid. The Web and database servers could be scaled out to meet the needs of a very large user group. Since the system is .NET compatible there is near limitless extensibility from a programming perspective.

The hardware, too, appears to be capable of significant extension. The addition of a redundancy layer (i.e. load balancing or clustering) to the environment would be ideal if more instances of the code base are to be shared across multiple counties.

The hardware infrastructure makes use of a state-of-the-art Cisco firewall that includes intrusion detection services, load balancing as well as numerous security features. The robust firewall features are only the first component of ensuring that the legal and ethical standards of privacy are met.

HIPPA CONCERNS

The privacy provisions of the federal law, the Health Insurance Portability and Accountability Act of 1996 (HIPAA), apply to health information created or maintained by health care providers who engage in certain electronic transactions, health plans, and health care clearinghouses. The Department of Health and Human Services (HHS) has issued the regulation, "Standards for Privacy of Individually Identifiable Health Information," applicable to entities covered by HIPAA. Understanding this law has become a business in itself. In an atmosphere as new to Government as the Web-based Client Index of Marin County, the act has raised many questions. According to HIPAA, patient information can be shared amongst groups providing payment, treatment, and health care operations, which encompasses much of the health services entities. However, it does not include Eligibility.

The Client Index system is very secure and meets or exceeds the salient HIPPA requirements. In order to gain access to the system a user must have a valid username and password. Once an authorized user enters the system all transactions are executed under a 128-bit Secure Socket Layer (or SSL). The SSL provides a high level of encryption to the data that is viewed over the Web pages. This is the same level of encryption used by the federal government, major credit card companies, banks and other large institutions.

Marin County has chosen to use a two-part approach to rolling out the Client Index to staff. The first rollout will have access groups designed with information restrictions as pertaining to the law without authorization. The second rollout will be in conjunction with the Marin County approval

of a blanket authorization. This authorization, if approved, will allow the agency staff to view information as deemed necessary by the client.

SYSTEM DEVELOPMENT COSTS

The infrastructure of Marin County has lent itself to the use of A87 to facilitate the cost of the Client Index. A87 is a generic cost category distributed through the County Controller's office to all county charge departments.² In using A87, the county's central Information Technology Department was commissioned to develop the system with the input of H&HS. Current costs of the system have not been established at this time. What is known about the project's financial status is the allocation of three full-time equivalent positions (FTEs) dedicated to conception, inception and ongoing maintenance. The sheer size of the system has deemed the need for the purchase of two dedicated servers (Web and database).

SUMMARY OF MARIN COUNTY INITIATIVE

The study of the Marin County Client Index system has revealed that the development of the major components of the system has been completed. After four years of development, the system has the look and feel of a user-friendly tool that front-line staff, supervisors and managers would find very useful in the day-to-day activities of Marin County H&HS. However, there has been a delay in the full implementation of the system throughout the Marin County H&HS Department. As of the writing of this report, only a few managers were utilizing the system. As a part of the research and fact-finding, the authors suggested that Marin County do a survey of

the current users of the system to ascertain whether they felt that the system was meeting their expectations and needs. The authors offered to conduct a sample survey, but, due to time restraints, were unable to accomplish that task. It is ultimately important that the implementation process be expanded so that the usefulness of the product can be validated in a real-world environment.

The enthusiasm generated by the introduction of a consolidated tool for viewing client information and doing "ad hoc" reports needs to be marketed at all levels within the organization. It is obvious that in the development of the product the interests and needs of the whole organization were considered, however, the "buy-in" comes with the inclusion of line staff, supervisors, managers and senior-level managers involved in the implementation process. Such an implementation strategy will include "scenarios" that show how the Client Index system:

- Saves staff time in looking up information about their clients.
- Gives a 360-degree view of client activities and services.
- Provides consolidated reports for planning service strategies.
- Provides comparative data for setting priorities.
- Gives clients a look at where they have been to make better choices of where they need to go.

² Personal correspondence with Maureen Lewis, Chief Fiscal Officer of Marin County H&HS

AN OPPORTUNITY FOR SOCIAL ENTREPRENEURSHIP

The use of a Client Index, and other business systems like it in the arena of government which promote a cleaner and faster approach to client services, has struck a chord with the concept of social entrepreneurship. Social entrepreneurship combines the passion of a social mission with the image of business-like discipline, innovation, and determination commonly associated with, for instance, the high-tech pioneers of Silicon Valley. In one simple view, this project recognizes the idea of pursuing new opportunities where others see problems. Social entrepreneurship gives vision on how to achieve improvement and make the vision work. Ashoka Fellows describes it best:

“While a business entrepreneur may thrive on competition and profit, a social entrepreneur has different motivation: a commitment to leading through inclusiveness of all actors in society and a dedication to changing the systems and patterns of society.”

During the case study, it was determined that there are many groups trying to establish a Client Index type system. However, none of the systems currently proposed or in use work in conjunction with one another to achieve the common goal of better service delivery.

STRATEGIES FOR EXPANDED IMPLEMENTATION

The authors are in agreement that the expanded implementation of the Client Index system should be monitored by a small group of BASSC participants to observe the progress in implementing the system throughout all Marin County H&HS.

The successful implementation process can then be replicated, understanding the differences between county operations, to insure a consistent application of techniques to market the benefits/costs of the system.

Documentation of these activities by BASSC at the Consortium level, can then be the backdrop for future similar endeavors and can be archived as a successful process between government entities.

ADAPTABILITY FOR OTHER COUNTIES

Marin County’s umbrella organization (H&HS) is comprised of seven Divisions. The Divisions are:

- Aging
- Alcohol, Drug and Tobacco
- Health
- Mental Health
- Social Services
- Administrative Services
- Office of Finance

Each division is led by a division head, who reports directly to the Department Director.

ALAMEDA, SAN FRANCISCO AND SAN MATEO COUNTIES

Marin’s Client Index model offers the possibility of a multi-county adaptation and implementation. However, the authors’ home counties have an organizational structure that stands in contrast to that of Marin H&HS.

The services delivered by Marin’s umbrella organization of H&HS are separated out into distinct agencies in the authors’ home counties. For example, Public Health and Social Services exist as

independent agencies, where in Marin these two agencies fall under the umbrella of H&HS.

These organizational differences will require the creation of agreements and collaborations that do not currently exist. While such issues as confidentiality of data, cost-sharing, and control of the data pose significant barriers to successful implementation of the system, the current financial and political realities are leaning towards the adoption of more innovative and cost-effective methods for providing services and maintaining systems for viewing, evaluating and reporting activities.

The Client Index system can change the way the three counties share information between agencies or on a much smaller scale, within a department. It can be a system that shortens the length of time it takes to provide information to front-line staff on services that have been provided to participants on their caseload, thus reducing the development of a plan for assistance. It can provide supervisors and managers with information and reports concerning activities of groups of participants. Senior-level staff can have access to data faster in response to requests from federal, state, city and community organizations.

Specifically, the departments of social/human services in any county could bring together data between various systems currently in use, including data collected by contracted vendors into the Client Data System for use by different levels of staff.

One of the reasons that the authors were excited about the prospects of the Client Index system and chose to use this as a case study, was the possibility of adapting the system for use in each of the three counties.

The system has the capability to gather the data from many different sources, thus making it possible for either San Francisco, San Mateo or Alameda County to import its data and achieve the same results as Marin County. The systems that are currently used in each county to store, retrieve, and report data are similar or compatible to the majority of the data sources used in the Client Index system.

In the most cost-effective scenario a centrally hosted environment could serve as the host for the creation of an inter-county Client Index. Such an arrangement will enable each participating county to view client data whether services were received in Alameda, San Francisco or San Mateo County.

Concerns about confidentiality will undoubtedly complicate the collaboration needed to establish a multi-county system. But the authors are eager to use an existing consortium, such as BASSC, to facilitate the necessary agreements needed to establish the alliance for the Client Index Multi-County system.

One logical next growth step that BASSC may embrace will be to serve as a neutral party for the development of collaborative projects, such as the Client Index Multi-County system. This step would allow BASSC to extend outside of the current policy-driven arena and broaden it to include client-centered, cost-saving, out-of-the-box thinking projects that remove the administrative barriers to providing a better environment for delivering services.

The ability of neighboring counties to break down the silos of services county by county will finally recognize the existing mobility of our clients throughout the Bay Area region.

Another important issue is the capability for each county to be able to review services provided to a client that resides within the county, transferring to or from another county or receiving services in more than one county. Cases where clients have received services in more than one county are common. However, systems and processes that provide an account of these redundant services have yet to be implemented.

In order to provide the most effective, efficient and client-centered service, each county must know what services have already been provided to insure a strategy and plan that would be most beneficial to the client. A Multi-County Client Index system would provide the region with that opportunity.

Finally, the authors are committed to working within their own counties to evaluate the Client Index (or similar system) as a tool for improving service delivery.

SUSTAINABILITY

Discussions about a Client Index system are not new, but an idea whose time has come. So, questions concerning the continued usability of such a system have a great potential in the current environment of government services.

As an example, a Statewide Client Index (SCI) is currently being developed for all clients known to ISAWS, LEADER, WDTIP, SFIS, MEDS, Healthy Families and several public health programs. This system would assign unique ID numbers, called Client Index Numbers (CINs), for all the clients in each of the above listed data systems.

Seemingly, the quest for data between systems is increasing, and efforts are being made in different

arenas to address these issues. The Marin County Client Index system, therefore, has the potential to expand and sustain itself outside of the boundaries that have been used in its initial design and use. It can serve as a data warehouse tool for a number of different data systems, with the future capability to design viewing tools and reports to meet the users need.

As issues of accountability, adaptability and confidentiality are solved, the system could then, in its present form display the data in a user-friendly manner consistent with the compromises and agreements that exist between government organizations or data silos.

The shared costs of development, implementation, and ongoing maintenance provide the stability necessary to manage the system over time. The current financial “crisis” in our state, city and county governments only makes the collaboration and sustainability of joint projects and programs that more important in times ahead. The Client Index system, therefore, can be the first of many joint-funded and collaborative efforts to provide an example of ways to sustain important tools through financially challenging years.

RECOMMENDATIONS

In conclusion, the following recommendations are forwarded as next steps for conceptualizing a county or multi-county implementation:

- The implementation process for Marin County should be monitored to its completion to determine the practicality and usefulness for line staff, supervisors and decision-makers.
- The Return on Investment (ROI) must be calculated to make a determination of the feasibility

for any other County or a Consortium of Counties to implement the System.

- Other similar client index systems should be evaluated for ROI, cost, compatibility and usability, etc.
- BASSC should be explored as the springboard for multi-county system applications.

These three recommendations constitute a belief that:

- The Marin County Client Index (or other similar systems) will make our services better.
- Executive level commitment is necessary.
- Technology is not a barrier to successful implementation.
- Each individual county's culture and structure must guide the implementation strategy.

ACKNOWLEDGEMENTS:

In Marin County:

We would like to sincerely thank Marin County for their engaging discussions during the course of our case study. We would like to especially thank Dr. Larry Meredith, Heather Ravani, Jerri Panyko, Dr. Christophe Meneau, Fred Kilby, Maureen Lewis, David Lutz, Elise Lenox, and Marty Graff, and all current and former BASSC participants.

In Alameda County:

Chet Hewitt, Yolanda Baldovinos, Don Edwards, Rita Hayes, Fionna Branagh, Lisa Castillo, Stephanie Hornung, Jerome Graham and all current and former BASSC participants.

In San Francisco County:

Trent Rhorer, Tony Lugo, Vakil Kuner, Paul Rosenberg, Wes Patton, Terry Austin, and all current and former BASSC participants.

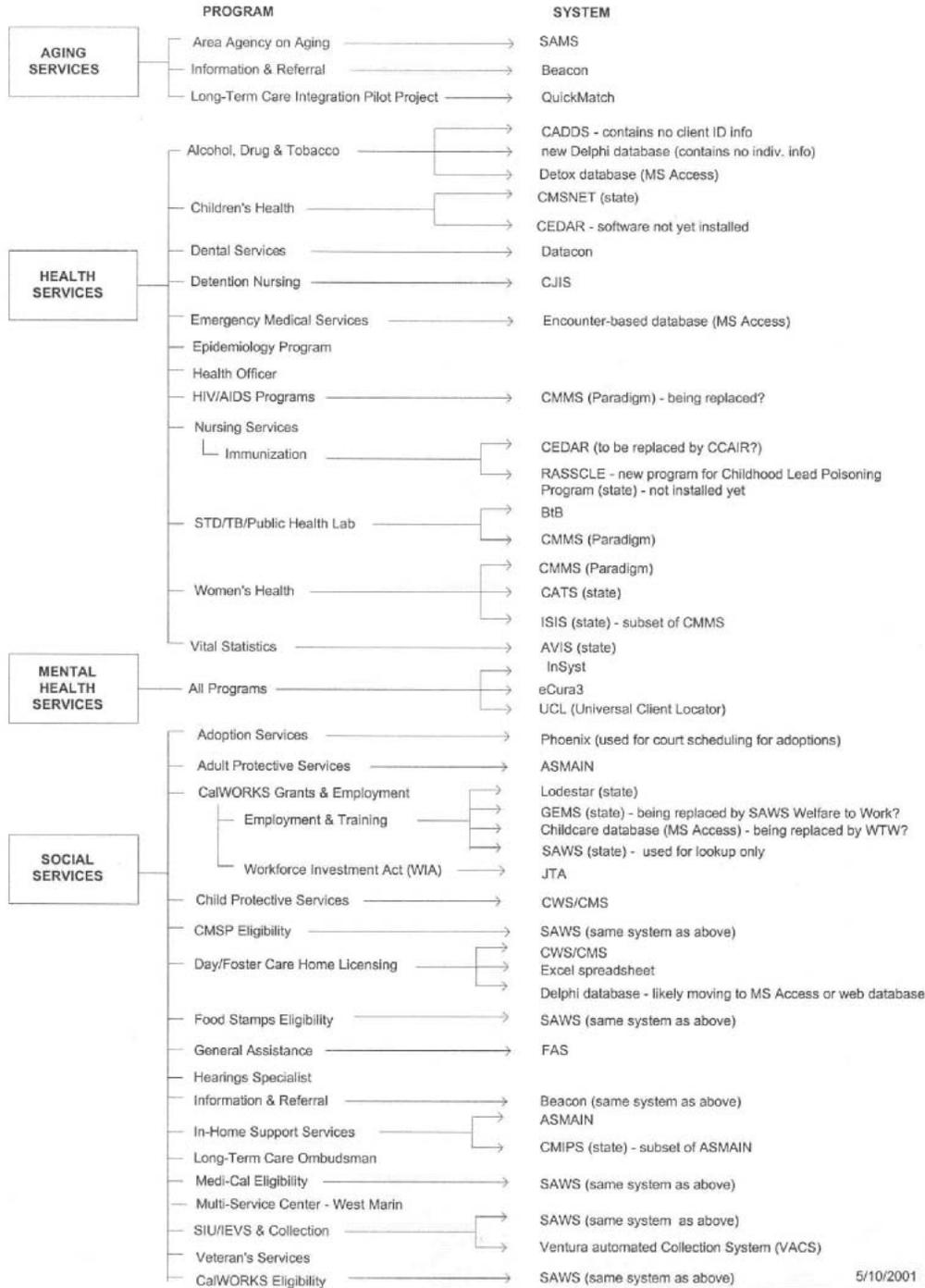
In San Mateo County:

Madelyn Martin, Glen Brooks, John Joy,

Kathryn Ciamarro, and all current and former BASSC participants.

APPENDIX

Chart 1: Marin Client Index obtains data from the following 42 disparate client management systems.



5/10/2001

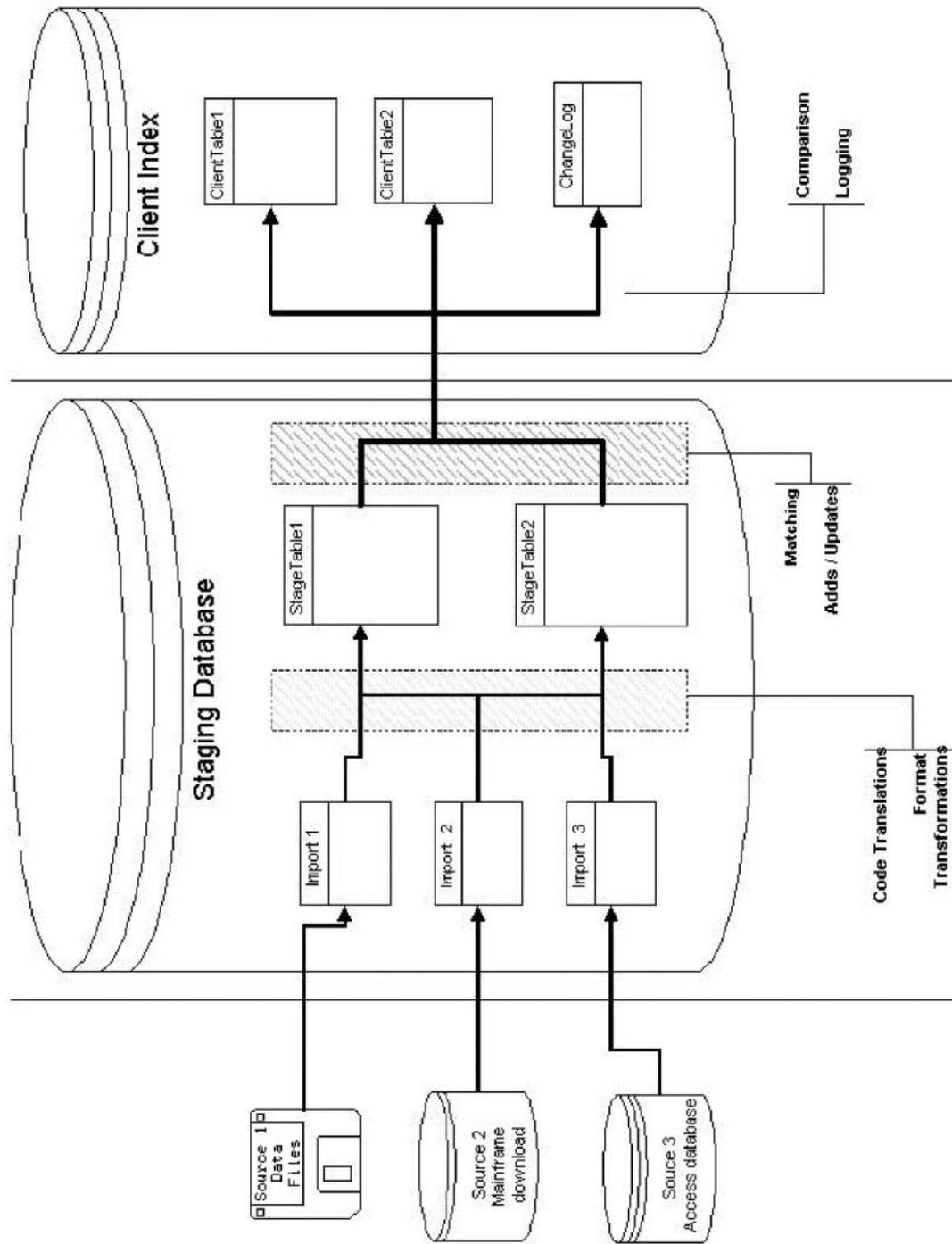


Figure 1: Marin Client Index Data Collection Process

Figure 2: The first step of using the client index is to log in to the secure county Web site.

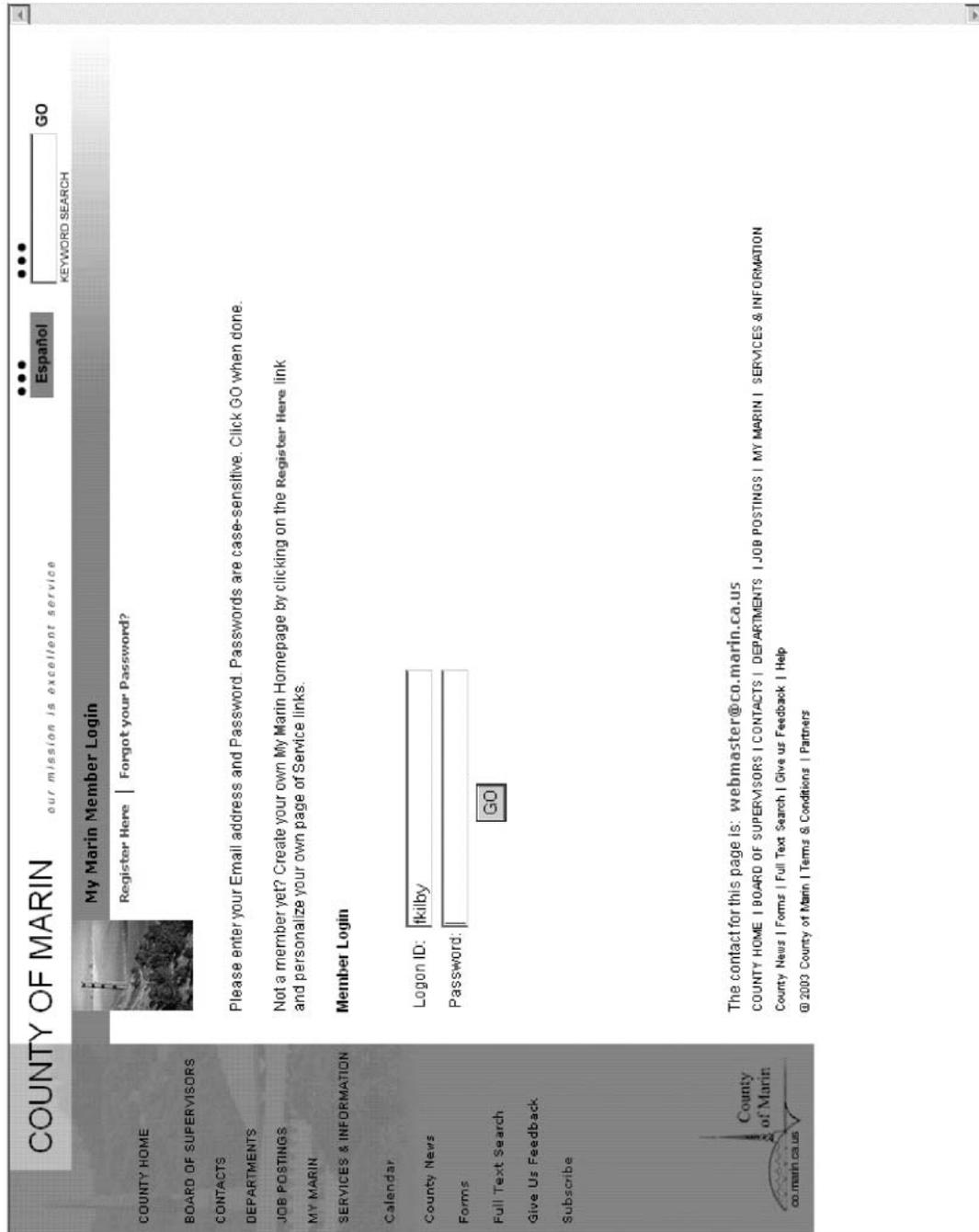


Figure 3: The second step of using the client index is to search for a client using their last name (or other demographic piece of information).

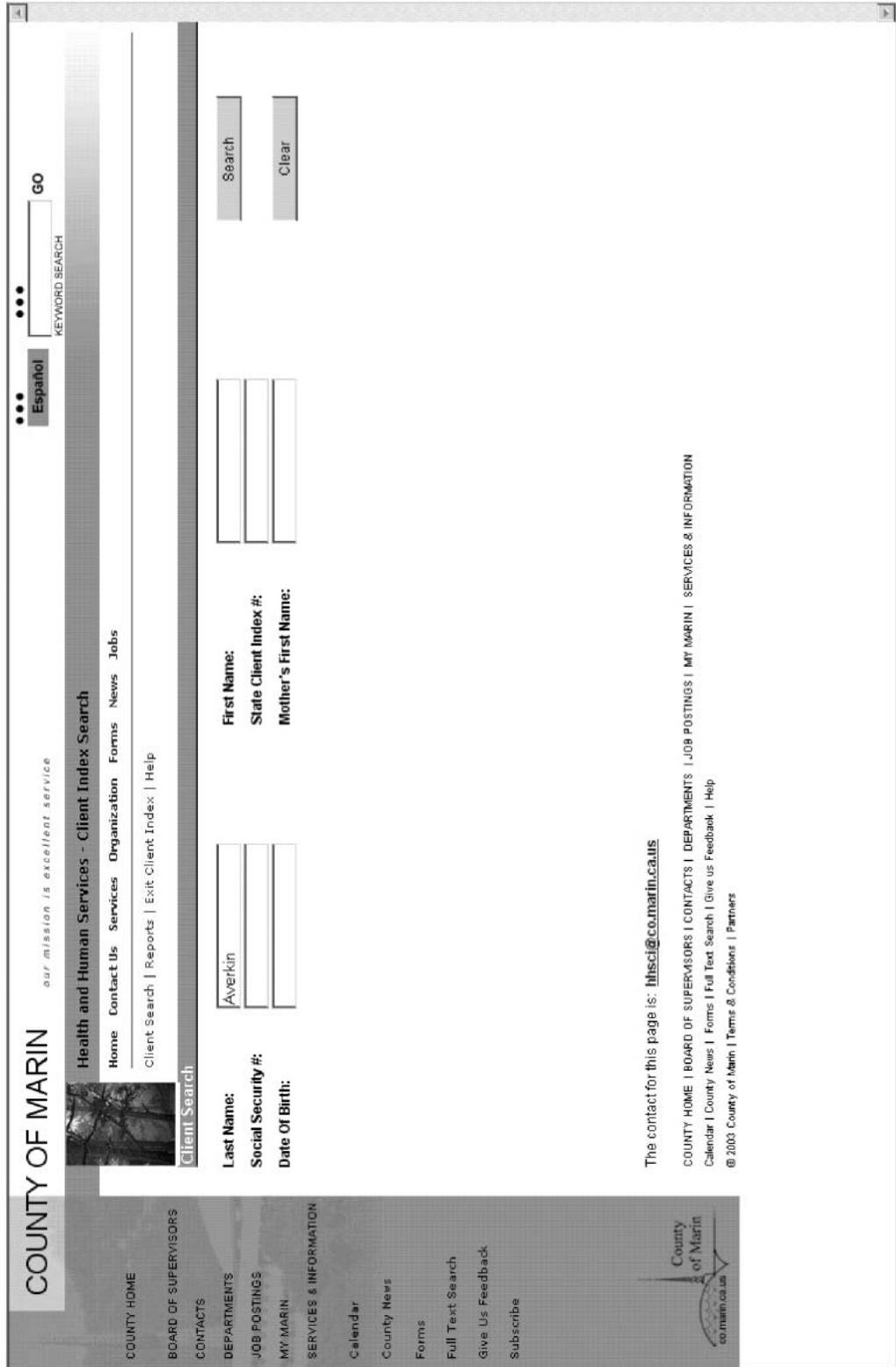


Figure 4: The third step of using the client index is to select the appropriate client for which information is being sought.

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Client Search | Reports | Printable Format | Exit Client Index | Help

Health and Human Services - Client Index Search

Client Search

Last Name: First Name:
 Social Security #: State Client Index #:
 Date Of Birth: Mother's First Name:

Search Results

Client's Name	Date Of Birth	Social Security #	CIN / PIN	Gender	Mother's First Name	Marital Status
John Averkin	6/2/1941	999-24-4183		M		Unknown
Stacey Averkin	1/31/1966	999-63-0846	10329449X	F	Barbara	Single/Never Married
Stacey Lynn Averkin	1/31/1966	999-63-0846	10329449X	F	Barbara	Single/Never Married

The contact for this page is: hmisc@co.marin.ca.us

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Figure 5: Finally, after clicking on the last name of the client, the authorized user can view the client's detailed demographic information as well as a listing of all contact that the client has had with county service providers.

COUNTY OF MARIN

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Spanish **GO**

KEYWORD SEARCH

Health and Human Services - Client Index Search

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Stacey Averkin [Back](#)

Client Name: **Stacey Averkin** Gender: **F** Preferred Language: **English**

Birth Name: **Stacey Lynn Averkin** Ethnicity: **White** Education: **Grade 12**

Social Security #: **999-63-0846** Hispanic Indicator: **Not Spanish/Hispanic** Household Size: **3**

State Client Index #: **10329449X** Marital Status: **Single Never Married** Household Income: **N/A**

Date of Birth: **1/3/1966** Birth Place: **San Francisco, California, United States** Disabilities: **Unknown**

Date of Death: **N/A**

Medi-Cal Eligibility for the month of April: **AFDC 1931(b) Non CalWORKs (MC-3N)**

Aliases: **Stacey Lynn Averkin**

Addresses		Telephone Numbers	
Type	Address	Type	Number
Case	108 Hampton San Rafael, CA 94903	Client	(415) 000-3483
Client	108 Avran San Rafael, CA 94903	Home	(415) 000-3483
Mail	108 Venola San Rafael, CA 94903	Message	(415) 000-2053

Program Participation		
Program ID	Activity	Source System
MC-3N	Medi-Cal (SS)	MEDS
MC-3N	Medi-Cal (SS)	MEDS
FS-NA	Food Stamps (SS)	SAWS
MC-3N	Medi-Cal (SS)	MEDS
FS-NA	Food Stamps (SS)	SAWS
MC-3N	Medi-Cal (SS)	MEDS
FS-NA	Food Stamps (SS)	SAWS
MC-3N	Medi-Cal (SS)	MEDS
FS-NA	Food Stamps (SS)	SAWS
AFDC-35	CalWORKs (SS)	SAWS
AFDC-35	CalWORKs (SS)	SAWS

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