

The Bay Area Regional Homelessness Data Warehouse Project

Planning and Governance

A Best Practices White Paper



*Office of Community Planning and
Development*

The Bay Area Regional Homelessness Data Warehouse Project

Planning and Governance

A Best Practices White Paper

*Prepared by Tony Gardner
Tony Gardner Consulting*

July 2007

Prepared for: Office of Community Planning and Development

Acknowledgments

**Authored by Tony Gardner
Tony Gardner Consulting
508 San Anselmo Avenue, Suite 4
San Anselmo, CA 94960**

A very special thanks goes to Ray Allen of Community Technology Alliance in San Jose for carrying the regional technology vision, managing the data warehouse project, and for his extensive help, always given willingly and with constant good humor; without Ray, this white paper would not have been possible. Many other people also helped to make this white paper possible by contributing their time, ideas, experiences, opinions, comments, feedback, and editing. Although it is not possible to name the many people who have contributed, a big thanks is due to all of the following: Steve Sangervasi, and John Bardos of Community Technology Alliance; Cassandra Benjamin of CSB Consulting (formerly a program officer of the Charles and Helen Schwab Foundation and funder of the Bay Area Counties Homeless Information Collaborative [BACHIC]); Kate Bristol of Kate Bristol Consulting (formerly the facilitator of BACHIC), Jessica Flintoff and Gina Allendorf of HomeBase (current facilitators of BACHIC); and all of the current participants of BACHIC, including Riley Wilkerson and Kathy Barkow (Alameda Countywide Continuum of Care [CoC]), Cynthia Belon and Lavonna Martin (Contra Costa County CoC), Andrea Bizzell and Josh Senyak (Marin County CoC and Quicksilver Consulting, a former consultant to BACHIC), Glorietta Rowland (Monterey County CoC), Annette Kramer (Napa County CoC), Darryl Higashi (San Francisco CoC), Wendy Goldberg (San Mateo County CoC), Margaret Gregg (Santa Clara County CoC), Teresita Hinojosa-Pereira (Santa Cruz County CoC), P.J. Davis and Debra Williams (Solano County CoC), and Nolan Alexander and Mark Krug (Sonoma County CoC).

Public Domain

All materials in this work are in the public domain and may be reproduced or copied without permission. However, this publication may not be reproduced or distributed for a fee without the specific written authorization of the Office of Community Planning.

Table of Contents

PART A: BASIC REGIONAL HMIS DATA WAREHOUSE IDEAS AND CONCEPTS 1

1. Introduction to Regional HMIS Data Warehousing	1
a. Value of regional homelessness data collaboration.....	1
b. HUD’s interest in regional data approaches.....	1
c. Overview of this white paper.....	2
2. Key Concepts and Definitions for Regional HMIS Data Warehouses	2
a. What is and is not a regional HMIS data warehouse?.....	2
b. Goals and uses.....	3
c. Introduction to regional data warehouse components.....	4
d. Other types of regional HMIS collaboration.....	5
e. Privacy and security issues.....	5
f. Differences between data warehouse projects and HMIS.....	6
g. Significant challenges posed.....	6

PART B: BAY AREA REGIONAL HMIS DATA WAREHOUSE PLANNING AND GOVERNANCE..... 7

3. Introducing the Bay Area Regional HMIS Data Warehouse Project	7
a. What is BACHIC?.....	7
b. What is RHINO?.....	7
c. Additional regional projects and outcomes.....	7
d. A dynamic process that takes time.....	8
4. Building a Planning Process	8
a. Impetus and reasons for establishing BACHIC.....	8
b. Geographic background.....	9
c. History and context of Bay Area collaboration.....	9
d. Need for leadership.....	10
e. BACHIC composition.....	10
f. Basic participation understandings and guiding principles.....	12
g. Governance philosophy and structure.....	14
h. Relationship to local CoCs and HMIS.....	17
i. Relationship to other regional entities.....	17
j. Summary of lessons learned and suggestions.....	19
5. Assessing Regional Needs and Capacity	20
a. Overview of HMIS data warehouse needs assessments.....	20
b. Local CoC and regional needs and capacity information collected.....	20
c. Summary of lessons learned and suggestions.....	23
6. Developing a Vision for Regional Data and Collaboration	24
a. Challenge of reaching agreement among CoCs.....	24
b. Developing a vision and benefits.....	24
c. Determining what the system must do.....	25
d. Context of local HMIS planning and development.....	26
e. Regional data framework strategy.....	27
f. Selection of the regional data warehouse option.....	27

g. Selection of a regional data project provider.....	28
h. Ongoing planning and decisions.....	29
i. Overcoming key barriers to buy-in.....	29
j. Summary of lessons learned and suggestions.....	31

APPENDICES: SAMPLE MATERIALS..... 32

Appendix A. Project Overview and Guiding Principles for RHINO.....	1
---	----------

Appendix B. Shared Regional HMIS System Memorandum of Understanding (MOU).....	1
---	----------

Appendix C. BACHIC Regional HMIS Data Framework.....	1
---	----------

Appendix D. BACHIC and RHINO Project Planning and Decision Document.....	1
---	----------

Part A: Basic Regional HMIS Data Warehouse Ideas and Concepts

1. Introduction to Regional HMIS Data Warehousing

a. Value of regional homelessness data collaboration

Regional Homeless Management Information Systems (HMIS) data warehousing merges data from more than one HMIS into a single regional database. As a result, a regional or inter-metropolitan data picture of homelessness becomes possible spanning geographic areas containing multiple Continuums of Care (CoC). The potential informational benefits of regional data warehousing are many. For the first time data warehousing can allow region-wide:

- A de-duplicated point-in-time count of sheltered homeless people;
- Statistics on homeless demographics, service usage, and outcomes;
- Information on cross-CoC or geographic movement of homeless people; and
- Longitudinal data on successful approaches and progress toward ending homelessness.

In addition to enhancing regional data analysis, the collaborative process involving multiple CoCs can give rise to many other important benefits in the areas of HMIS and broader planning to end homelessness. These can include:

- The sharing of information and practices among HMIS projects;
- The creation of cost savings through joint HMIS administration, hosting, and/or bulk purchasing;
- The generation of regional interest in solving homelessness among elected officials, regional groups, and the public;
- The preparation of a Regional Ten-Year Plan to End Homelessness, merging or coordinating the Plans of individual CoCs; and
- The sparking of regional collaboration on homelessness policy and legislative advocacy, e.g., on joint approaches to discharge planning.

b. HUD's interest in regional data approaches

The U.S. Department of Housing and Urban Development's (HUD) primary interest in regional data warehousing comes out of its efforts in recent years to help communities to gather and use HMIS data for better serving homeless people and ending homelessness. Under Congressional direction, HUD has encouraged every CoC to develop and implement an HMIS, established uniform national HMIS Data and Technical Standards¹ (HMIS Standards), and devoted substantial technical assistance resources to helping

¹ U.S. Department of Housing and Urban Development, Homeless Management Systems (HMIS); Data and Technical Standards Final Notice, FEDERAL REGISTER, Vol. 69, No. 146/Friday, July 30, 2004/Notices, pp. 45888-45934, available on-line at: <http://www.hud.gov/offices/cpd/homeless/rulesandregs/fr4848-n-02.pdf>.

CoCs succeed with HMIS. By June 2005 nearly three-quarters (72%) of 469 individual CoCs reported that they were collecting HMIS data.²

As the number of HMIS implementations has increased, so has the interest in regional collaborative approaches to HMIS. Examples of regional efforts that have emerged including the New England Region Homeless Management Information System (NERHMIS—see best practice description below), the Los Angeles/Orange County Collaborative on HMIS, and the Bay Area Counties Homeless Information Collaborative (BACHIC, the subject of this white paper). While HUD does not require regional collaboration on HMIS, it has supported the various locally driven efforts to collaborate regionally with national and local HUD technical assistance resources.

c. Overview of this white paper

This white paper documents and profiles the planning process and governance structure of the Bay Area regional HMIS data warehouse project. In addition, it seeks to illuminate key lessons learned by Bay Area participants and to suggest alternative approaches for aspects of planning and governance.

The white paper begins with an overview of the key data warehouse concepts and definitions in order to introduce the subject and to provide a context for the description of the Bay Area project. It then:

- Introduces the Bay Area collaboration and data warehouse project;
- Describes the planning process and governance structure;
- Details the regional needs and capacity assessment that was carried out; and
- Spotlights the creation of a regional vision and strategy with a focus on all-important buy-in.

Each section ends with a handy summary of lessons learned and suggestions. The appendices include replicable or adaptable tools and document examples from the Bay Area planning process.

2. Key Concepts and Definitions for Regional HMIS Data Warehouses

a. What is and is not a regional HMIS data warehouse?

A regional HMIS data warehouse is a central database integrating homelessness data from more than one HMIS implementation. It typically receives data periodically from each participating HMIS, can be queried, and produces reports. It can also include homelessness data from non-HMIS sources, such as provider records or a database from a mainstream government assistance program. The structure of the database itself can vary depending upon the purposes, capacity, and budget of the implementing organization. For example, the database can be “normalized” or not, and can be a flat file, relational, hierarchical, multidimensional, or an object database. It may store historical data, making possible the analysis of trends over time. It may also apply a consistent approach to homelessness data across multiple HMIS databases that may otherwise vary greatly. Finally, it is important to note that the concept of an HMIS data ware -

² See “Report to Congress: Fifth Progress Report on HUD’s Strategy for Improving Homeless Data Collection, Reporting, and Analysis, March 2006, U.S. Department of Housing and Urban Development, Office of Community Planning and Development, p. 5, available on-line at: <http://www.hud.gov/offices/cpd/homeless/hmis/strategy/reporttocongress2006.pdf>

house is very new and will likely evolve over time.

A regional HMIS data warehouse is *not* an HMIS.³ It also usually does not include many of the functionalities that may be part of an HMIS, such as information and referral, client intake, services tracking and referral, case management tools, and shelter or bed register. It may contain all of the underlying HMIS data, or only portions (e.g., it may exclude specific data elements, such as names or Social Security Numbers). Because it is separate from HMIS, its data can be manipulated and analyzed without impacting HMIS user operations.

b. Goals and uses

The specific goals and uses of a regional HMIS data warehouse may vary depending upon the needs and decisions of the organizations participating in the project. In fact, as detailed below, a careful collaborative process for identifying the data warehouse's specific goals and uses and a shared vision may be the most important determinant of project success. Nevertheless, it can be said that the overarching goal of a regional HMIS data warehouse is to produce information and analyses that support decision-making on homelessness issues that have a regional dimension. This includes decisions directly affecting more than one CoC and decisions within one CoC that are affected by regional circumstances (e.g., programming decisions influenced by the inter- or intra-CoC migration of homeless people). Users of regional data might include local CoCs; nonprofit homeless assistance providers; health care providers; elected and appointed state, county, and city officials; councils of governments; joint powers authorities; regional and inter-metropolitan planning groups; national, statewide or regional coalitions and advocacy groups; academic researchers; the general public; and the media.

The overarching goal of a regional HMIS data warehouse is to produce information and analyses that support decision-making on homelessness issues that have a regional dimension.

Examples of the types of decisions that may be informed by regional data are:

- The introduction and passage of legislation related to homelessness;
- The diverting of public funds from other uses to solutions to homelessness;
- The re-direction of public homelessness funds from one use to another;
- The changing of public policies that contribute to homelessness or hinder solutions;
- The funding of homeless programs by private foundations and corporations; and
- The physical siting of new homeless housing or service facilities.

Specific uses of regional data include:

- Providing a static regional picture of the homeless population, demographics, and service needs;
- Tracing regional trends and patterns over time in homeless migration, services needs and uses,

³ Because of the novelty of the HMIS data warehouse concept, it is not yet clear how the HMIS Standards might apply, although it can be said that HMIS Standards provide beneficial practices for most homelessness data collection and handling, including through a data warehouse.

and program costs and success;

- Furnishing reliable data to inform the creation of state, regional, or local CoC Plans or Ten-Year Plans to End Chronic Homelessness;
- Furnishing reliable data for government and private grant applications and reports;
- Creating information useful for annual reports of funders, CoCs, or nonprofit organizations;
- Producing statistics comparing homelessness in different CoCs, or in different settings, such as urban, suburban, and rural settings;
- Supporting academic explorations and research on the cause and solutions to chronic or family homelessness; and
- Informing the public and media about the extent of homelessness, solutions that work, and the need for additional funding.

c. Introduction to regional data warehouse components

Aside from being a central database for collecting, storing, and reporting on data from more than one HMIS, there is no single set of components that constitutes a regional HMIS data warehouse. The scope of technology available allows data warehouses to be structured in many ways, and the components actually put into place will depend upon the needs to be filled by the data warehouse and capacity and budget of the implementing organization. The Bay Area data warehouse project provides a useful example because it is one of the first regional metropolitan homelessness data warehouse projects in the nation, and it is being designed with extensive input from eleven CoCs to meet ambitious data processing and security goals. The following are among key components of the current Bay Area regional HMIS data warehouse design:

Universal and Program-Level Data Elements: A defined set of specific universal and program-level data elements to be provided by each CoC with most Personal Protected Information (PPI) removed, e.g. name and Social Security Number;

Comma Separated Value Schema: A Comma Separated Value (CSV) schema and process for the periodic extraction, transformation, and transmission of data sets from participating HMISs (the project will likely switch to the HUD XML schema when all CoCs are ready);

Unique Regional Client Identifier: A unique regional client identifier and process for the de-duplication of clients across CoCs;

Relational Database: A relational database to facilitate analysis and reporting of static and longitudinal data;

Secure Socket Layer, Encryption, Firewall, and Backup Server: Security features that include Secure Socket Layer (SSL—128 bit) encryption during data transmission, database firewall, and a backup server for data disaster and recovery services; and

Data Analysis and Reporting Software: Software for data analysis and reporting.

d. Other types of regional HMIS collaboration

When embarking on a process of regional homelessness data collaboration, HMIS data warehousing is not the only option. As mentioned to above, other possibilities include:

- A single regional HMIS implementation (providing HMIS for all CoCs within the region);
- A multi-CoC or inter-metropolitan HMIS implementation (providing full HMIS services for selected CoCs within a region or inter-metropolitan area);
- The sharing of administrative and training functions for what are otherwise separate HMISs;
- The saving of money through joint negotiations with software vendors and bulk purchase of computer hardware; and
- The sharing of HMIS information, policies and procedures, and lessons learned (a key goal of the New England HMIS collaborative introduced in the following brief profile).
- As detailed more fully below, the Bay Area chose the data warehouse model to enable regional data aggregation in a context where each CoC was developing a unique HMIS.

e. Privacy and security issues

As with HMIS, regional homelessness data warehousing raises client data privacy and security issues. The privacy and security issues that arise depend largely upon whether the data transferred from HMIS to the warehouse includes personal protected information (PPI). If a data warehouse contains only aggregate information, or client-specific information but with identifiers effectively removed, then concerns about client privacy and security may not be raised at all. But if the data warehouse contains PPI, then concerns about client privacy and security will be raised.

Also, because HMIS data warehousing occurs within the collaborative framework of multiple HMIS implementations, it is paramount that the project account for and be consistent with local HMIS privacy and security concerns, policies, and procedures. Local HMISs may hesitate to submit HMIS data if they feel the data warehouse is not sufficiently private or secure and does not comply with their own policies. A problem is that participating HMIS implementations may have very different privacy and security policies and procedures, so it may be difficult to accomplish what is needed—a privacy and security approach acceptable to all.

Local HMISs may hesitate to submit HMIS data if they feel the data warehouse is not sufficiently private or secure and does not comply with their own policies.

A full exploration of data warehouse privacy and security is beyond the scope of this white paper. However, regional HMIS data warehouse planners should, at a minimum, examine the following:

- What is the consensus on regional policy regarding privacy of warehoused HMIS data?
- Will the data warehouse contain PPI, and if so, to what extent?
- How do the HMIS Privacy Standards apply, if at all? Are there other federal and state laws?

- Do participating HMISs' existing privacy and security policies and procedures allow for the proposed data warehouse uses of client data?
- Are changes to the policies and procedures of any of the HMISs needed for data warehouse uses?
- What agreements providing satisfactory privacy and security assurances are needed between participating CoCs and the regional data warehouse provider?
- Will "research" be conducted? What research agreements may be required?
- What regional privacy and security policies must be created just for the data warehouse project?
- What security features need to be included (SSL data transmission, database encryption, etc.)?

f. Differences between data warehouse projects and HMIS

Even though HMISs and regional HMIS data warehouses deal with similar information, project planners should understand some fundamental conceptual differences between the two project types:

Client Data Versus Data Sets: While HMISs are fundamentally concerned with the collection of data elements directly from clients, HMIS data warehouses are concerned with collecting whole data sets from HMIS databases.

Interfacing with Agencies Versus with CoCs: While HMIS project staff work directly with homeless assistance agency staff (e.g., to ensure that quality data are collected), data warehouse staff work mainly with HMIS project staff (e.g., to coordinate the up-loading of whole data sets.)

HMIS Policies and Procedures Versus Regional Data Warehouse Policies and Procedures: While a central focus of HMIS policies and procedures is the collection and handling of information directly from clients, the focus of regional data warehouse procedures is the preparation and handling of HMIS data sets coming from HMIS staff.

Satisfying one CoC Versus Multiple CoCs: While most HMIS implementations require the agreement of just one CoC for decisions, a regional data warehouse can only move forward on decisions for which there is common agreement from all CoCs (i.e., the lowest common denominator.)

g. Significant challenges posed

A regional HMIS data warehouse project is a highly demanding endeavor merging the use of complex computer technology with collaborative activity across multiple CoCs. Designing and implementing the technological infrastructure is no doubt challenging, but does not pose the largest problem. The greatest challenges are essentially political and have to do with people. How do you get people representing multiple CoCs that often have conflicting or competing priorities to reach the specific agreements that are needed to make a data warehouse a success? Success depends centrally upon building buy-in from participating CoCs and developing a strong shared vision of what the project will accomplish. With buy-in and a shared vision the project is on the right road. Without them, the project is on the way to delay and possible failure.

Part B: Bay Area Regional HMIS Data Warehouse Planning and Governance

3. Introducing the Bay Area Regional HMIS Data Warehouse Project

a. What is BACHIC?

The Bay Area Homeless Information Collaborative, or BACHIC, is a *group* of representatives from eleven San Francisco and Monterey Bay Area CoCs which has been meeting periodically, typically every two months, since 2002. As described more fully below, its members are the CoC coordinators (or equivalent staff members) from each of the participating CoCs, although local HMIS project staff also participate when data sharing and CoC technology issues are discussed.

b. What is RHINO?

The Regional Homeless Information Network (RHINO) is the name of the *regional HMIS data warehouse* being developed. CoC-level data from the participating HMISs will be periodically transmitted to the RHINO warehouse to generate region-level data for use in analysis and reporting.



c. Additional regional projects and outcomes

In addition to RHINO, the BACHIC process has spawned a number of additional projects and outcomes, summarized as follows:

Three-CoC HMIS Collaborative: As originally envisioned the HMIS management, vendor relations, administrative, and training capabilities of Community Technology Alliance (the RHINO data warehouse provider) were to be furnished collaboratively among HMIS implementations for the Contra Costa County, Monterey County, and Santa Clara County CoCs. This collaborative framework has since transformed to one-on-one service relationships between Community Technology Alliance and the CoCs.

BACHIC-North: Representatives from the four “northern” relatively small CoCs of Marin County, Napa County, Solano County, and Sonoma County (which all originally used similar non-Internet-based HMISs) meet periodically to share information and discuss collaboration.

Joint Vendor Negotiation: Early on, the coordination of vendor price negotiations through Community Technology Alliance benefited participating CoCs.

Local HMIS Project Planning: It was recognized early that regional HMIS planning has to be “from the ground up,” meaning that it should derive from common elements and needs of local HMIS projects (see below for further information). Because a number of local CoCs were in the early stages of the HMIS planning process, the local technical assistance expertise of Community

Technology Alliance and HomeBase was tapped to create HMIS Project Plans for six CoCs.

Regional HMIS Information Sharing and Advocacy: Through BACHIC, members have regularly shared information as they implement HMIS, received learning opportunities, and developed written regional policy positions, such as comments on the then-draft HMIS Standards.

Ten-year Planning Best Practices and General Homelessness Policy Work: BACHIC not only works on HMIS issues, but also develops and coordinates regional policies on homelessness. BACHIC advises the Association of Bay Area Governments (ABAG) in its efforts, through a Regional Homelessness Task Force, to promote regional homelessness policies and to regionally disseminate best practices in local 10-Year Plans to End Homelessness.

d. A dynamic process that takes time

The process of collaborating regionally takes time, but it is time well spent. BACHIC has been meeting for nearly four years and is now approaching the point of implementing RHINO. Much of this time has been spent in developing the structure of BACHIC, achieving a common regional vision, designing a concept for RHINO that will work well given the differences among participating HMISs and CoCs, and building local CoC buy-in and commitment to the shared vision. This is a dynamic process; for example, many original decisions must be re-made, sometimes more than once, as underlying assumptions change, funding changes, technology changes, and participating CoC staff change (sometimes bringing new attitudes to regional collaboration and always needing to be brought up to speed). Given these realities, it helps to expect that plans and decisions will not remain the same and to be comfortable in a fluid process.

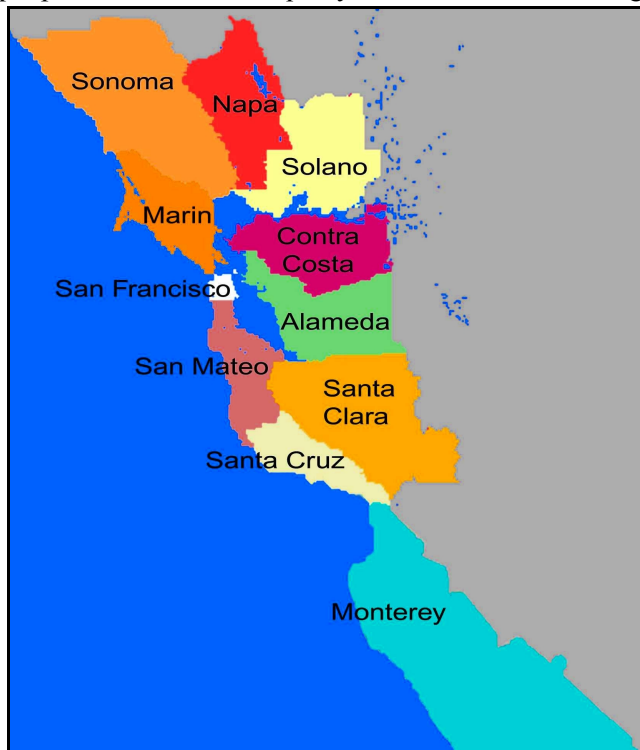
4. Building a Planning Process

a. Impetus and reasons for establishing BACHIC

BACHIC sprang into being in 2002 as a result of strong interest among Bay Area CoCs in collaborating to meet the then-new congressional direction encouraging every CoC in the nation to implement HMIS by October 2004. With a strong regional history of collaboration and interest in the use of technology, CoC representatives saw tremendous potential value in meeting to “leverage HMIS learning and expertise across communities, thereby increasing the overall likelihood of project success and decreasing corresponding risks and uncertainties,” as early BACHIC documentation put it. Informal meetings and conversations led to a successful request to a Bay Area regional funder, the Charles and Helen Schwab Foundation (Schwab Foundation) for resources to support a sustained regional HMIS exploration and planning process. The Schwab Foundation committed staff to help to organize meetings, funded a meeting facilitator, paid for meeting space, and funded consultants to carry out early needs assessment and regional and local planning work. Participants had different reasons for taking part; some were more interested in “regionalizing” HMIS and homelessness data, while others were primarily interested in leveraging the region to strengthen *local* HMIS (such as through cost savings). BACHIC provided the central forum for discussion of these issues and for developing a common regional vision.

b. Geographic background

The geography of the Bay Area encourages regional collaboration, but also poses significant problems. The region is really a patchwork of communities, including major cities, suburbs, towns, farms, and rural areas from the coast to the mountains and centered on the San Francisco Bay and the Monterey Bay. In a land of great diversity, linked by bridges and highways, and with a booming regionalized economy, people see themselves equally as residents of their neighborhoods, their towns or cities, their counties,



and the whole Bay Area. People recognize a regional aspect to many socioeconomic issues (e.g., employment, transportation, housing, and homelessness), and planners from most Bay Area locations can reach centrally located meetings within an hour's drive or via the regional BART subway.

On the other hand, the sheer scale of the region poses challenges for planners. There are eleven counties, three major metropolitan areas, and numerous fast-growing cities. The regional population is 7,512,499, larger than the population of many states. The land area of 10,691 square miles is equivalent to the state of Maryland. Homelessness is present throughout the region.

c. History and context of Bay Area collaboration

collaboration in the field of ending homelessness and using technology in the process. This history has helped to forge the relationships across CoC lines and the common frames of understanding and reference that have made both BACHIC and RHINO possible. Following are some of the more important examples of relevant Bay Area collaboration:

The Bay Area Regional Steering Committee on Homelessness and Housing (RSC):

Convened by HomeBase, the RSC is a regional body composed of representatives of local government, nonprofit homeless service providers and housing developers, academics, advocates, volunteers and those who have experienced homelessness. Begun in 1988, the group meets bi-monthly to collaborate on homelessness and poverty issues, including HMIS and technology. The RSC has been proactive in advocating around participants' concerns regarding federal and state policy issues, conducting research and trainings, designing programs, and supporting the work of those serving homeless people while seeking an end to homelessness.

Bay Area Regional Initiative to Turn Homelessness Around (BARI): Launched in 1996 after a lengthy planning process, BARI was an eleven-county initiative to reduce homelessness by starting regional housing and service projects and conducting regional policy and community-building activities to remove the causes of homelessness. Led by a 27-person *Regional Task Force* and funded by a three-year, \$7 million Innovative Cities CoC demonstration grant, BARI funded eight regional projects for reducing homelessness.

Bay Area Homeless Alliance (BAHA): Founded in 1996 as one of the regional BARI projects (see above) and led by Community Technology Alliance, BAHA established a regional, web-based infrastructure that included an eleven-county, searchable information and referral database; housing, employment, and transportation listings; computerized SSI, SSDI, and Earned Income Tax Credit guidance; links to agency web pages throughout the region; a 1-800 regional shelter hotline and Voicemail for the homeless throughout the region; and, on-line information about all BARI projects;

Regionally Delivered HMIS Planning Assistance: In 2003, the David and Lucile Packard Foundation (Packard Foundation) funded HomeBase and Community Technology Alliance to deliver regionally based technical assistance in the HMIS planning phase to four of the South Bay CoCs: Monterey, San Mateo, Santa Clara, and Santa Cruz.

HUD-Sponsored Regional HMIS Technical Assistance Conferences: HUD's San Francisco Field Office has been highly proactive in supporting regional collaboration and delivering regional HMIS technical assistance. Since 2003, the San Francisco office has held six HMIS technical assistance conferences and a series of peer-to-peer phone conferences, providing learning opportunities for more than twenty CoCs in Northern California, Arizona, and Nevada.

d. Need for leadership

One of the most important ingredients for success in any collaborative endeavor is leadership. Leadership for the Bay Area HMIS data warehouse project has come from Community Technology Alliance and the Schwab Foundation. As detailed below, Community Technology Alliance has promoted and carried the regionally technology vision for many years, worked tirelessly to achieve regional consensus, and managed all aspects of the RHINO project. The Schwab Foundation stepped forward at the critical birth of the project to provide the resources needed to pursue the opportunity. Beyond simply approving grants for research and facilitation, Schwab Foundation staff arranged meeting space for what became BACHIC, invited CoC representatives to meetings, copied meeting materials, attended and participated in meetings, and generally nudged and prodded the process along. This leadership from Community Technology Alliance and the Schwab Foundation has been central to advancing the project.

The loss of leadership can cause serious difficulties. In August 2005, the Schwab Foundation ceased support for BACHIC when it phased out its funding for all homelessness and housing projects as part of Foundation-wide cost-cutting measures. This unfortunate lapse of project leadership and funding led to a six-month delay until February 2006, when meetings and planning re-commenced.

e. BACHIC composition

BACHIC is now composed of the *CoC coordinators* (or equivalent position) from the following eleven participating CoCs, each of which covers a Bay Area county and all the cities and towns within it:

1. Daly/San Mateo County CoC⁴
2. Marin County CoC

⁴ These are the HUD-designated official CoC names. For ease of reference and to reflect local usage, throughout this white paper each CoC will be referred to only by its county name; e.g., the Watsonville/Santa Cruz City & County CoC will be called simply the "Santa Cruz County CoC."

3. Napa City & County CoC
4. Oakland/Alameda County CoC
5. Richmond/Contra Costa County CoC
6. Salinas/Monterey County CoC
7. San Jose/Santa Clara City & County CoC
8. San Francisco CoC
9. Santa Rosa/Petaluma/Sonoma County CoC
10. Vallejo/Solano County CoC
11. Watsonville/Santa Cruz City & County CoC.

HMIS information technology (IT) staff from each HMIS implementation also attends when data sharing and CoC-level technology issues are considered.

BACHIC included only the six CoCs within the Schwab Foundation’s geographic area for funding: Alameda County CoC, Contra Costa County CoC, Marin County CoC, San Francisco CoC, San Mateo County CoC, and Santa Clara County CoC. However, early on the Schwab Foundation agreed to expand the group to eleven CoCs when participants pointed out the long history of eleven-county (whole region) collaboration. A membership roster with contact information is maintained and regularly updated.

Because of their leadership positions locally, the CoC coordinators (or equivalent) were chosen as the appropriate representative from each CoC. They:

- Are empowered to represent their CoCs;
- Serve as a liaison between regional and CoC-level planning;
- Are involved in broader regional advocacy; and
- Can link the regional data warehouse with local HMIS implementations.

CoC coordinators also take part in other regular regional meetings that include other types of representatives, for example, the Bay Area RSC (described above). BACHIC provides an opportunity for CoC coordinators to *meet primarily with their own peers* and address the issues common to their position.

Best Practice Hint: Technology Serves Policy, Not the Other Way Around

The regional process works better when CoCs are represented by *policy-oriented* staff (e.g., CoC coordinators) rather than *technology-oriented* staff (e.g., HMIS IT staff). This helps to keep the focus on using technology and information only for practical policy purposes. Said one representative, “the techies don’t speak the same language, tend to divert the conversation, and are not always in tune with their county’s homeless policy.” HMIS IT staff do, of course, have an important role to play in helping policymakers to understand the technology and vendor information, and thus to make informed decisions.

f. Basic participation understandings and guiding principles

Very important for any collaborative project is the development of the basic understandings that govern group relations and participation. As one BACHIC participant put it, these understandings are the “glue” that holds the collaborative together. The understandings can be fairly general (e.g., “the collaborators will share responsibility”) or quite specific (e.g., “each collaborator will contribute .25 FTE to project implementation activities”). Some of the most important understandings for participants in a data warehouse project relate to commitments to participate, to provide data, to furnish staff time (for meetings and for data preparation), and provide funding (for group activities and for local costs). *Recording these understandings in writing and approving them* is a critical step in setting a collaborative course for success. This process has been a significant challenge for BACHIC.

2004 Guiding Principles: In April of 2004, BACHIC, began the development of a document originally entitled “Eleven-County Regional HMIS System Memorandum of Understanding” (MOU). In addition to setting forth sections on the project background and purpose, overall vision, advantages of regional HMIS, and approach, the draft MOU enumerated a series of agreements and understandings relating to project management, costs and funding, governance, participation and data transfer, and data ownership. In the subsequent meetings, the following key challenges arose:

Inability to Commit Funding: Some CoCs were hesitant, or unable, to make any commitment of local funding to sustain future regional operations. Some CoC coordinators expressed that they were not in control such funds, and would have to follow normal City or County funding request procedures; moreover, the project was in competition for scarce local funds with local HMIS implementations and other projects, such as HUD-required biennial homeless census.

Not Ready to Commit Local Staff Time: Some CoCs were hesitant to make a commitment of staff time for *local* work to transfer the data to the regional data warehouse until they knew how much that work would cost. They wanted to know what specific tasks would be required locally and how many hours those tasks would take.

Uncertainty About Signing the MOU: Some CoC coordinators did not want to *sign* the MOU because they felt they first had to obtain the review and approval of higher levels of authority.

Underlying these challenges was the critical need for CoC coordinators to ensure the alignment of regional and local CoC interests. Also, for any regional project, it is useful to understand the extent of each participant’s authority and to have some conception of the behind-the-scenes processes needed to secure local government commitments and buy-in (although the obtaining of the commitments and buy-in is functionally the work of the local CoC Coordinator, not the regional group).

There is a critical need for CoC coordinators to ensure the alignment of regional and local CoC interests.

A compromise solution was approved on September 10, 2004 with the following basic elements:

- The revised MOU was renamed the Regional Homeless Information Network (RHINO) Statement of Guiding Principles, which sounded less binding.
- The commitment to seek local funding for future regional operations was changed to the commitment to participate in a joint fundraising committee (described more fully below).

- The commitment of each local CoC to cover its own costs for preparation of data for transfer was removed and replaced with the commitment of Community Technology Alliance to work out the requirements for data transfer with BACHIC *as a group*.
- The document was approved by a *vote* recorded in BACHIC minutes (ten approve, one abstention), rather than by the *signature* of BACHIC members.

2006 Guiding Principles: As mentioned above, there was a meeting hiatus of six months after the Schwab Foundation ceased its support, during which time the future of project was uncertain. In addition, during the two years since the approval of the original Guiding Principles there had been considerable staff turnover among participating CoC coordinators, which resulted in new participants with different attitudes and ideas about the project. For these reasons, the group felt the need to re-consider and revise the Guiding Principles to reflect up-to-date group understandings.

This was not an easy process as many of the same funding and local staffing concerns arose that had arisen in 2004. More specifically, some CoCs:

- Expressed the desire to review a full project *technical schema* in order to estimate local staff costs and time needed (however, the *technical schema* had not been created);
- Needed to process the participation decision with their local CoCs and governments;
- Wanted to be sure that system confidentiality and security measures would be sufficient to allay the concerns of local CoC participants and advocates; and
- Wanted sufficient assurances that: (1) regional data would actually be analyzed (although funding for analysis had not yet been identified), and (2) regional data analysis would be controlled by BACHIC and the data “owned” locally.

Based on these issues and others like them, CoCs that had once been committed to transferring data were now only willing to commit to attending BACHIC meetings. Over the course of five BACHIC meetings, all eleven CoCs came progressively back around to the commitment not just to participate in the process, but also to periodically provide data, the most important need of the project. The main ingredients of this positive outcome were the readiness of all to keep meeting and talking, the steady facilitation provided by HomeBase, and the patience and willingness of Community Technology Alliance to provide objective information and answers to thorny questions and concerns as they arose, such as about the *technical schema* and about potential local costs and staffing needed. It also helped that small CoC stipends for local implementation costs were included in the data warehouse budget.

On August 31, 2006, BACHIC reviewed the 2004 Guiding Principles and the 2004 MOU draft (never approved). As in 2004, the group decided to use the format of Guiding Principles approved by a *recorded vote* of BACHIC. This was to avoid the “potential bureaucratic mess,” as one member put it, of needing to seek higher-level political and legal approval for *signing* an MOU. On November 29, 2006, BACHIC unanimously approved the document, now entitled “Project Overview and Guiding Principles for the Regional Homeless Information Network Opportunity (RHINO),” (Appendix A). The content is similar to that of the 2004 Guiding Principles, with compromises regarding the commitment of funds and staff time, but clearly reflecting the intent of each CoC to contribute data and participate in RHINO.

2004 Three-CoC MOU: As mentioned above, it was envisioned in 2004 that the HMIS management,

vendor relations, administrative, and training capabilities of Community Technology Alliance would be furnished collaboratively among HMIS implementations for the Contra Costa County, Monterey County, and Santa Clara County CoCs (a collaborative framework that has since transformed to one-on-one service relationships between Community Technology Alliance and the CoCs). Although a full profile of this MOU and project history is beyond the scope of this white paper, the MOU called “Shared, Regional HMIS System Memorandum of Understanding (MOU)” is attached as Appendix B as a model.

g. Governance philosophy and structure

Collaborative Approach and Emphasis on Building Consensus: BACHIC is structured as a voluntary collaboration among equal CoC partners. Decisions are made primarily on the basis of consensus. In fact, regional consensus building may be the most important process activity of BACHIC. Consensus is critical to the success of the collaborative and is a necessary ingredient for progress in a regional endeavor. The reaching of regional consensus is a painstaking process that requires patience, flexibility, and the willingness to stay engaged in the group conversation. This takes time—sometimes years—but it is time well spent. The failure to reach consensus on an important matter can doom the project because there is no mandate or requirement to take part, and CoC participation is entirely voluntary. In the background is often a perceived tension between the regional interest and the local CoC interests. It is of paramount importance that a regional project support local CoC interests.

Regional consensus building may be the most important process activity of BACHIC. Consensus is critical to the success of the collaborative and is a necessary ingredient for progress in a regional endeavor.

In BACHIC, the consensus building process is augmented by *democratic voting* in the case of the more important decisions. Decisions, as stated in the 2006 Guiding Principles, are made “*through a consensus process, however when needed, voting will occur. Each Continuum will have one vote.*” Using a vote with the consensus process has helped to clarify exactly what was decided and to give more force to the decision. When a vote is recorded in the minutes, it is more difficult to change the result. Because the votes tend to reflect a consensus already developed and are not conducted unless a majority of the CoC representatives are present, there has not been a need (yet) to address voting procedural questions (e.g., Is a quorum required? May substitutes vote on behalf of CoC representatives? Must the vote be approved by a unanimous vote, by a majority of those present, or by a majority of participating CoCs?) In cases where one or two CoC representatives were not present for a vote, an effort was made to obtain their votes either via e-mail or at the next meeting.

BACHIC Co-Chairs: Early on, the group informally established the position of BACHIC co-chairs. The current co-chairs, the Contra Costa County and Solano County CoC coordinators were approved by the consensus of the rest of the group. There are no current written understandings or rules regarding the process for appointment, or the authority, of the co-chairs. In general, the role of the co-chairs is to support the collaborative process by:

- Presiding over meetings (although there is also an outside facilitator—see below);
- Coordinating with consultants (and previously the Schwab Foundation) between meetings;
- Signing documents on behalf of BACHIC if necessary; and
- Representing BACHIC in other forums, such as the ABAG Regional Task Force on Homeless-

ness (mentioned above).

BACHIC Committees and Related Meetings: As described below, a number of formal or informal BACHIC committees or related meetings have emerged to meet specific needs or interests. Future committees or working groups may be needed for issues such as data analysis and reporting.

Joint Fundraising Committee: In June 2004, a joint fundraising committee of six BACHIC members was created in order to help raise funds for RHINO operations beyond the start-up period (which was to then be funded by the Schwab Foundation). Over the following year, the scope of the proposed fundraising expanded to include costs for RHINO central operations, individual CoC RHINO participation, data analysis, and BACHIC central costs. With the help of a Schwab-funded consultant, the joint fundraising committee and BACHIC developed a detailed group strategy for raising the needed funds. When the Schwab Foundation ceased support for RHINO in June 2005, the fundraising focus shifted to simply sustaining BACHIC planning, meetings and grant writing. When Schwab funding for the consultant ended in September 2005, fundraising activity stopped with no funds raised.

Executive Committee: The idea of establishing a four-person executive committee to conduct BACHIC business between meetings was put forth in November 2004 as part of broader BACHIC structural planning. The executive committee was never actually created; instead, the co-chairs play the role of the executive committee.

Related Meetings: As described above, BACHIC helped to spawn the BACHIC-North and Three-CoC HMIS Collaborative groups.

Organizational Structure and Fiscal Agent: In November 2004, BACHIC began considering the question of how it would apply for and receive funds raised for regional activities. Discussion focused on the identification of a “fiscal agent,” empowered simply to apply for, receive funds, disburse them for BACHIC-controlled purposes, and carry out needed accounting functions. The actual management of vendors and oversight of spending would be the responsibility of the Executive Committee (above), not the fiscal agent. The idea of a fiscal agent was put aside when informal contacts with funders yielded no interest in funding BACHIC and the group decided to remain a voluntary collaborative.

Outside Facilitator/Project Staff: BACHIC has benefited very significantly from the availability of outside consultants (originally funded by the Schwab Foundation and now provided in-kind by HomeBase) to provide facilitation and project staffing. Facilitation by a neutral party has kept meetings on track and helped the group to achieve consensus on thorny issues; project staffing has ensured that an agenda, other needed documents, and meeting minutes are prepared and available to aid in the decision process. Without outside consultants, BACHIC would have made less progress and had considerably more difficulty in overcoming key challenges to achieving consensus and a common vision.

For these reasons, anyone planning a regional HMIS data warehouse would be well advised to seek the services of an outside consultant for facilitation and project staffing. It is critical that *the person selected possesses the needed interpersonal and technical skills, be acceptable to most or all members of the group, be neutral, and be a consensus builder.* HUD technical assistance is available to help.

Other Consultants: Any technology-related collaborative can also benefit from technology and other consultants who have relevant expertise and who can carry out specific research or work needed by the project. As with the facilitator, it is critical that the consultants chosen have the required skills and enjoy the support of the group. Additionally, their scopes of work should be very specific and clearly aimed at meeting high-priority needs. The Schwab Foundation paid for consultants in the following key areas:

It is critical that consultants chosen have the required skills and enjoy the support of the group. Additionally, their scopes of work should be very specific and clearly aimed at meeting high-priority needs.

Fundraising: As mentioned above, a consultant supported the work of BACHIC and its joint fundraising committee by preparing (1) a detailed project budget, (2) a fundraising strategy, (3) a list of grant prospects, (4) a grant proposal template, and (5) talking points for fundraising calls.

Regional Needs and Capacity Assessment: Quicksilver Consulting wrote a report called “Planning Needs for BACHIC/HMIS Project, 4/29/03” identifying the need for a number of CoCs to complete their own local HMIS planning as a precondition to the planning of a regional project, and saying what should be included (e.g., goals, data to be collected, and participants’ roles and responsibilities) in each CoC’s HMIS project plan and in a regional project plan.

HMIS Project Plans and Regional HMIS Data Framework: Following up on the recommendations of the above report, Community Technology Alliance (subcontracting with HomeBase and other consultants) prepared five local CoC HMIS Project Plans and a “regional HMIS data framework,” incorporating elements from the local HMIS project plans (described more fully below). This work built upon the regionally based HMIS planning technical assistance project funded by the Packard Foundation (described above).

Content and Timing of Meeting: BACHIC meetings have typically been held *every two months*, except during the above-mentioned six-month hiatus (when the Schwab Foundation left the project) and when participants have been too busy to meet (e.g., during the three months prior to the annual HUD CoC funding application deadline). Meetings are usually four hours, from 10 a.m. to 2 p.m., with a lunch break. Because of the high need for the consensus and buy-in of all participating CoCs, it is necessary to find meeting dates when most or all representatives can attend. Considerable effort via e-mail and telephone often goes into identifying meeting dates that are acceptable to all representatives.

The content of each meeting is determined through the agenda-setting process that is driven by the decisions needed as set forth in the RHINO Project Planning and Decision Document (Appendix D). RHINO planning has been the dominant subject of meetings, but considerable attention has also been paid to BACHIC structural questions, other HMIS collaborative issues, and to non-technology regional policy issues. Agendas have commonly included:

- Introductions, announcements, and agenda review;
- Local CoC HMIS Updates (each representative gives a very brief update);
- Three to six substantive items for update, discussion, and/or decision pertaining to RHINO, BACHIC, HMIS collaboration, or regional policy; and
- Wrap up, next steps, and scheduling subsequent meetings.

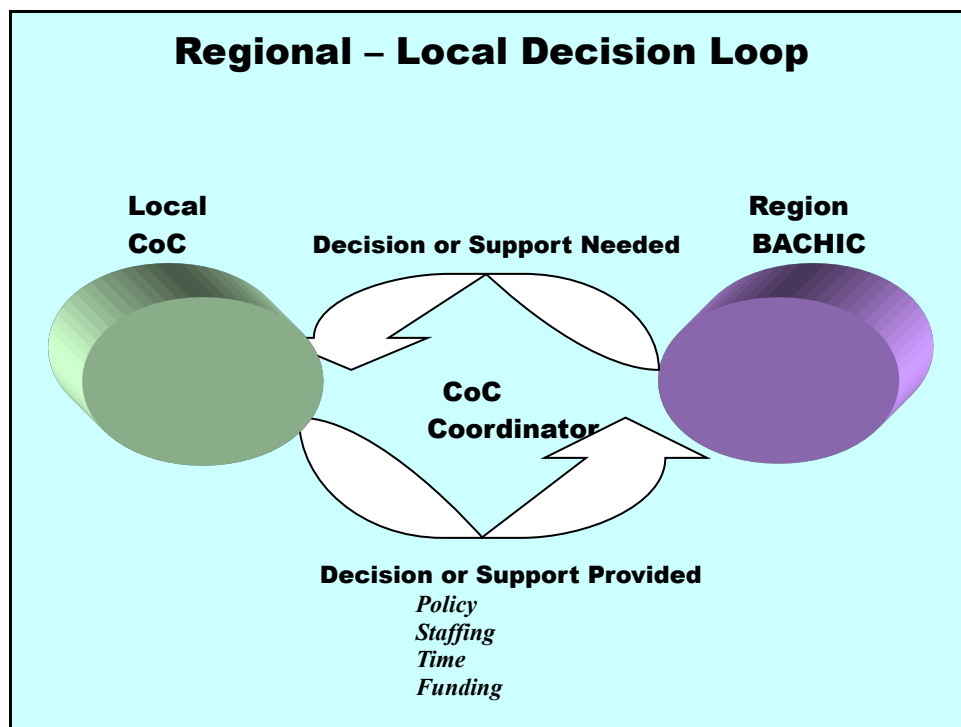
Substantive discussion items are typically supported by a PowerPoint presentation or written background

materials. Over time, RHINO discussions have moved logically from the more general (e.g., setting the vision and mission) to the more particular (e.g., creating the regional unique identifier).

Listserv: A BACHIC listserv is used to circulate relevant information to all BACHIC members and to provide agendas and other meeting materials in advance of meetings. Occasionally, decisions are made between meetings, using the listserv to gain consensus or a vote.

h. Relationship to local CoCs and HMIS

A critical lesson for any regional homelessness project is that the “region” exists only in the context of the “local.” For BACHIC, this means that group members represent the interests of their respective CoCs and must obtain the prior approval of their CoC or other local authority *before* making any regional commitment or supporting any important regional decisions. Such commitments and decisions are reviewed locally in light of local priorities and needs. The questions asked might be: What will this cost our CoC? What benefit will we get? What will local elected officials think? Success in a regional project requires awareness of local concerns and attention to this time-consuming, but all-important regional-local decision loop. What is more, the local CoC structure and decision process can vary, sometimes radically, between different CoCs. Thus, the CoC coordinator plays the key role of go-between, carrying information and decisions back and forth as demonstrated in the following chart.



The success of the regional process depends very much upon each CoC coordinator’s activity as a go-between. Commitments of local funding have proven especially difficult for CoC coordinators, who may have no direct control over the use of dollars. One participant has suggested the need for higher level elected or appointed officials to meet periodically to approve funding and resources.

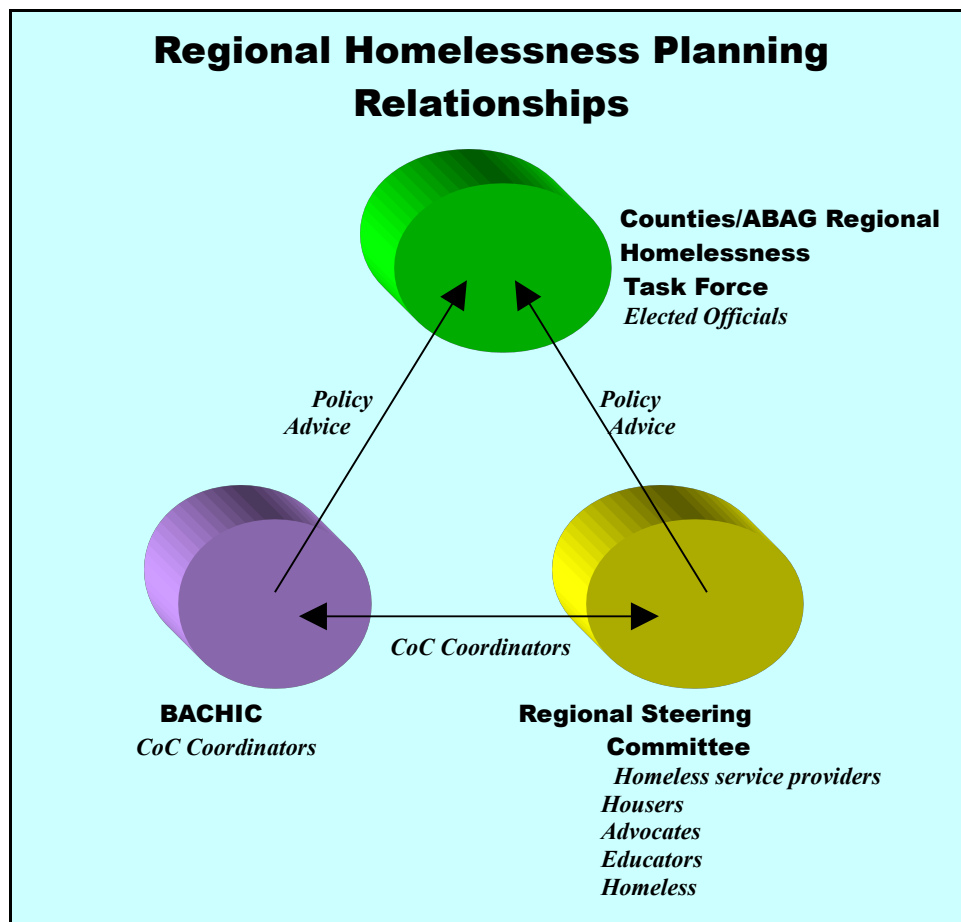
i. Relationship to other regional entities

Any regional data project must coordinate with other existing regional homelessness planning groups to

avoid working at cross purposes and to make sure that regional data serve broader policy needs. The following describes the relationships between key regional groups and BACHIC, as does the chart below:

RSC: The RSC is composed of representatives from across Northern California, including those from local government, nonprofit homeless service providers and housing developers, academics, advocates, volunteers, and those who have experienced homelessness, while BACHIC is a group of representatives from the eleven Bay Area CoCs. While the RSC focuses on all homelessness issues, BACHIC has focused on RHINO and issues of joint interest to CoC coordinators. Coordination is aided by the fact that most BACHIC members also attend the RSC.

ABAG Regional Homelessness Task Force: The Regional Homelessness Task Force is a voluntary committee of ABAG (the Council of Governments in the nine-county San Francisco Bay region), composed of elected officials, including County Supervisors, Mayors, and City Council members. To date, it has focused largely on regional best practices in ten-year planning, regionally based policy changes, and HMIS coordination across counties (i.e., RHINO). It has requested expert advice from BACHIC on policy and HMIS issues. The BACHIC chairs and members of the RSC have attended and presented at the Task Force. Contacts have been initiated with the Association of Monterey Bay Area Governments (AMBAG), whose service area contains two of the BACHIC CoCs: Monterey County and Santa Cruz County.⁵



⁵ To date, the State of California has not taken an active role on regional HMIS data issues.

j. Summary of lessons learned and suggestions

LESSONS LEARNED: BUILDING A PLANNING PROCESS

1. Capitalize on a major event or opportunity to launch the regional planning process. (For the Bay Area, it was the need to implement HMIS by October 2004.)
2. Look for regional leadership. It could come from a regionally focused funder, Council of Governments, or nonprofit organization.
3. Build upon a history of regional collaboration and/or upon natural regional relationships.
4. Identify a supportive funder if possible. Dollars to bring people “to the table,” are a great motivator, and will pay for needed planning activities. However, make sure that the dollars are not the only reason people participate.
5. Policy should guide technology, not the reverse. Thus, the planning group should be composed of policy-level rather than technology-level staff. Think about how best to involve HMIS IT staff when the issues become more technical. One key role for HMIS IT staff is to help policymakers to better understand the technology and to accurately interpret technical information from vendors.
6. CoC coordinators (or their equivalent) are appropriate policy-level staff, well positioned to work together regionally. For some regions, there may arise the need for a higher-level group—elected officials or high-level jurisdictional staff—to meet and makes decisions regarding funding and data sensitivity.
7. Basic understandings about what it means to participate are absolutely critical to the process. Spend as much time as is needed to reach consensus on these understandings.
8. A consensus-based decision model may work best in the regional context. Because participation is totally voluntary, the consensus of all is required for all to move forward.
9. A very flexible structural model has worked best for BACHIC. Other regions might want or need more structure. Thus, set aside time to discuss structural issues that help to strengthen the regional group, e.g., committee structure, chair or co-chairs, fiscal agent, and by-laws.
10. Remember that the region exists only in the context of the local. Pay close attention to local issues and concerns and to the “regional-local decision loop.” Every important issue needs to be processed locally, and this process is different for every CoC.
11. Staffing of the regional process with an outside facilitator can make all the difference. If no one organizes the meetings or carries out work between meetings, the process can collapse.
12. Work hard every time at identifying meeting dates and times that work for all. Don’t forget that no one has to attend, and it is hard to reach consensus without everyone present. But do use technology (e.g., a list serve) to efficiently distribute information and to poll the group for less-important decisions.

5. Assessing Regional Needs and Capacity

a. Overview of HMIS data warehouse needs assessments

Prior to designing and implementing a regional HMIS data warehouse, it is very important to first develop a good understanding of the regional technical (and political) environment within which the warehouse will operate. This can take the form of a formal technical assessment process with CoC surveys and focus groups, or the needed information can be compiled informally through phone calls, meetings, correspondence, e-mail, and the review of existing HMIS documentation. Key assessment questions include, for example: What computer hardware and software do CoC participants now have? What data do they now collect? What are the skills and capacity of existing IT staff? What local funding and political constraints exist? Whether the assessment is formal or not, the purposes are the same:

- To better understand the needs of participating CoCs;
- To inform the project design, so that the eventual system deployed is appropriate and sustainable given the technical and political constraints and circumstances of participating CoCs;
- To generate recommendations for strengthening local capacity to participate;
- To develop a better sense of barriers to CoCs' willingness to participate; and
- To collect basic information for estimating project costs.

Planners should keep in mind that this process may be dynamic rather than static. Technical assessment information tends to go stale rapidly as staff turn over or learn new skills, new equipment and software are purchased, and circumstances otherwise change. Thus, more than one technical assessment may be needed over time *or* the process should be looked at as continual.

As in other areas of the planning process, it is worth keeping in mind some conceptual differences between technical assessments for regional data warehouse projects and for traditional HMIS projects:

- While HMIS technical assessments are largely focused on the technical resources and capacity of homeless service agencies, HMIS data warehouse technical assessments are more interested in the technical resources and capacity of HMIS lead agencies.
- While HMIS technical assessments are concerned with the capacity and numbers of end users and their workstations, HMIS data warehouse technical assessments pay attention to capacity and skills of lead IT staff and central servers, equipment, and software.
- While HMIS technical assessments investigate client data collected by agencies, HMIS data warehouse technical assessments look closely at whole data sets generated by HMIS.

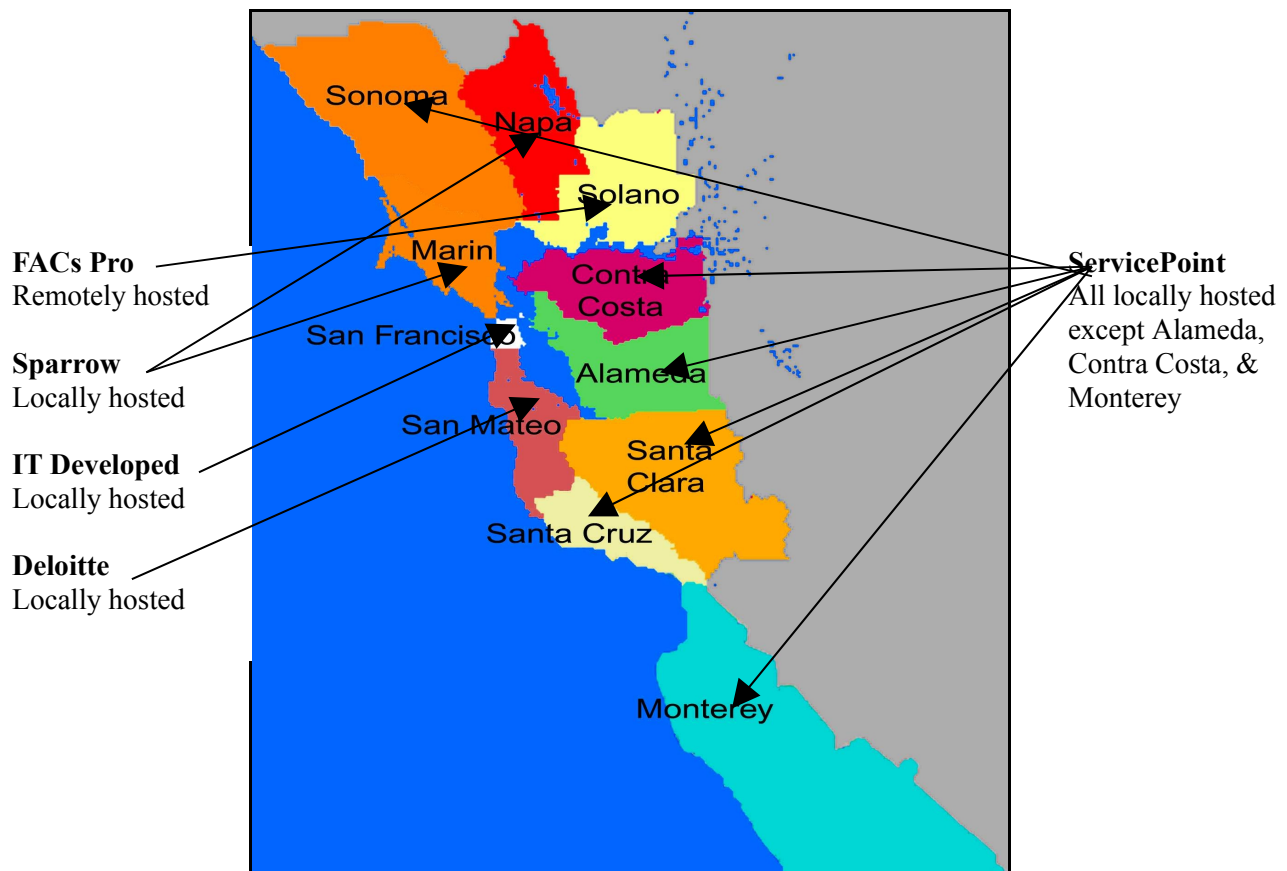
b. Local CoC and regional needs and capacity information collected

Community Technology Alliance has used a continual process of gathering and updating relevant information as an integral part of its project management activities. This information has come from BACHIC process, but also, very importantly, from the bilateral relationships Community Technology Alliance has developed with many of the CoCs. For instance, bi-lateral contacts with some CoCs led to the recom -

mentation to use the CSV rather than the more complex HUD XML schema for data transfer. Also, the provision of regionally based technical assistance and creation of uniform HMIS project plans (referred to elsewhere in this white paper) have been instrumental in creating a rich pool of knowledge about the regional technical and political environment. Through this regular updating of needs and capacity data, BACHIC has learned that answers to the following types of questions are very valuable for planning a regional HMIS data warehouse:

Technical Issues:

HMIS Software Used: Which HMIS software program, is used, or will be used, by each participating CoC? What is its capacity for generating aggregate data for transmission to the data warehouse? As depicted in the chart below, in the BACHIC region six CoCs currently use ServicePoint; two use Sparrow, a locally developed reporting system based on Microsoft Access; one uses its own custom developed system; one uses a system custom developed by Deloitte Touche Tohmatsu; and one uses FACs Pro, a Community Action Agency-supported system.



Technical and Hosting Configuration: Who hosts the CoC HMIS database? Is it locally hosted, or remotely hosted by an HMIS vendor (see chart above for BACHIC area hosting information)? What central server equipment is used and how is it set up?

Other Software and Hardware Available: What other computer software and hardware resources are available to local HMIS IT staff? Do they have non-HMIS reporting tools that can help streamline the transfer of HMIS data to the regional data warehouse? Can they integrate data from non-HMIS sources to broaden the coverage of their own aggregate data and regional

data?

Approach to Security and Confidentiality: How do local HMISs provide on-line security for sensitive data? What is the local philosophy toward client privacy, especially for sensitive populations, such as domestic violence survivors? What policies and procedures are in place to protect clients' privacy? Which privacy laws may apply? Answers to these questions will help shape the level of security and privacy built into the data warehouse.

Data Issues:

Data Elements Collected: Which specific data elements does each CoC collect? HUD universal and program level data elements? Additional local data elements? Which elements do all participating CoCs collect? The core of a regional data warehouse will most likely be the comparable common data elements collected by all.

Data Completeness and Quality: How complete are the data collected (e.g., the percentage of null fields)? How timely is data entry? How accurate? What strategies are used to correct problems and errors? These answers are important for assessing the potential completeness and quality of regional aggregate data and steps that may be needed to correct data at the regional level.

Organizational Issues:

Local CoC and HMIS Decision Process and Authority: Who locally has authority to make decisions affecting regional database participation? The CoC? The HMIS committee? The HMIS lead agency? Other? What decision steps are required? As explained previously, the local decision process is a critical part of the regional decision process, thus sufficient time for local decisions must be built into the project plan.

Technical Staff Capacity and Sophistication: How many full-time equivalent IT and project management staff members are committed to HMIS? What are their specific technical skills and levels of experience? How much time, if any, can they commit to work connected to the regional data warehouse? What technical assistance will they need from central regional data warehouse staff? Local staff time and capacity can vary widely, leading to very different levels of help and technical assistance needed to participate.

HMIS Policies and Procedures: What local HMIS policies and procedures have been adopted? What are the commonalities and differences among the HMIS policies and procedures of participating CoCs? Regional policies and procedures should reflect commonly accepted approaches to policies and procedures among participating CoCs and be acceptable to all.

Political Issues:

Regional Data Interests and Commitment: What regional homelessness trends and issues are of concern to each CoC? What specific interest in regional data has been expressed? What level of commitment exists to provide data to a regional data warehouse? How can this be confirmed? The decision to move forward at all with a regional data warehouse can depend largely on the answers to these critical questions, answers which can change over time.

Funding Available: Is local funding available to help pay for central regional data warehouse equipment and activities? To pay for local data preparation and transmission costs? This information is important for all aspects of project budgeting and fundraising. Due to the shortage of loc-

al funding, BACHIC has built CoC “stipends” into the budget to help cover local costs.

Political Support (or Opposition): What local support for or opposition to the regional data project exists? Government support or opposition? Service providers? Advocates? Homeless people? Why does the support or opposition exist? What other actors, such as regional organizations or the state, support or oppose the project? Governmental interest and support are vital determinants of project feasibility, and major opposition can be avoided by addressing the confidentiality and security concerns of providers, advocates, and clients.

c. Summary of lessons learned and suggestions

LESSONS LEARNED: ASSESSING REGIONAL NEEDS AND CAPACITY

1. Don't underestimate the need to collect information about local CoC data needs, IT capacity, *and political environment*. This information helps form the knowledge basis upon which most regional decisions rest.
2. Early on, consider the possibility of conducting a formal needs and capacity assessment. Written surveys, focus groups, or structured interviews are models to consider. Otherwise, gather the information informally through phone calls, e-mail, and reviewing existing HMIS documentation.
3. Working to develop good relationships with local HMIS and CoC personnel is key to gaining accurate, complete, and up-to-date needs and capacity information.
4. Bear in mind that the information gathering process may be dynamic rather than static, especially if there is substantial change or flux at the local HMIS or CoC levels. You may need to conduct more than one assessment (at staggered intervals), or otherwise update information continually (as BACHIC has done).
5. A regional needs assessment is different from a local needs assessment; the focus is on the central data needs and capacity of the HMIS system rather than the remote needs and capacity of the HMIS end user agencies.

6. Developing a Vision for Regional Data and Collaboration

a. Challenge of reaching agreement among CoCs

A very critical early step in the process of developing any regional homelessness data project is to engender group consensus on the project’s overall vision. Without concerted work to clarify the programmatic needs to be met by the project, its specific goals, and its required functionalities, there is no solid basis for later systems design and technical decisions, and the project is at greater risk of misunderstandings and disagreements that could delay or even scuttle the whole effort. This process was especially difficult in the case of BACHIC because participating CoCs came to the table with highly varied ideas of what the project should accomplish; not all area CoCs were originally a part of the group; no local HMISs had yet been implemented (and in some cases local planning had not yet started); and the National HMIS Standards (with its required data elements) had not yet been published. Thus, an important RHINO success ingredient was early—and ongoing—conversations about what specifically the project should accomplish. The variety of regional ideas and approaches were articulated, discussed, modified, agreed with, disagreed with, and discussed again. While the process may have seemed endless and repetitive—“like herding cats” was one participant’s colorful expression—it was worth the effort because, slowly a common vision of a regional HMIS data warehouse—RHINO—emerged.

Without concerted work to clarify the programmatic needs to be met by the project, its specific goals, and its required functionalities, there is no solid basis for later systems design and technical decisions.

b. Developing a vision and benefits

A very good place to begin the planning of any regional homelessness data project is the crafting of specific statements of vision and benefits. Some projects (but not RHINO) may also use a mission statement. These kinds of statements are intended to reflect succinctly what is most important to the group, to serve as a guide to project implementation, and to be a means to eventually assess whether the project ultimately reaches its goals. They provide a touchstone for ensuring that all later systems design and implementation work is consistent with the approved regional direction. The defining of visions, missions, and benefits is often a *dynamic* rather than *static* process. Rather than shelving these statements, the group can regularly review and modify them based upon new needs and circumstances.

Statement of Vision: The vision of BACHIC and RHINO sets forth the ambitious scope of what is intended. Developed and updated in BACHIC meetings (most recently on March 10, 2006) through a consensus process of discussion, editing, and decision, it currently reads as follows:

The Bay Area Counties Homeless Information Collaborative (BACHIC) brings together eleven counties to collaborate on a Regional Homeless Management Information System (HMIS), and to provide input into the development and coordination of regional policies on homelessness. Our vision is to enhance our collaboration and data collection capabilities, leading to a better understanding of the homeless population in the region. The Regional HMIS will be a rich repository of information that will provide data that will be utilized to analyze trends, gaps in services, and mobility patterns among homeless people, and inform homeless funding and policy directions. The Regional HMIS will give policymakers, service providers, and funders a better understanding about homelessness within our region. The analysis of regional data will allow for better planning and resource management and an increased ability to address the present and

future needs of homeless people in the BACHIC region.

In RHINO's case, the vision has been used literally to influence the data warehouse design. For example, because the vision desires to analyze "gaps in services," the decision was made to include HUD universal *and* program level data elements (except for most PPI).⁶ Because the vision wants to analyze homeless "mobility patterns," the decision was made to include the last permanent address zip code (even though it is PPI) as a means for tracking mobility.

Statement of Benefits: Building on the vision, the statement of benefits provides additional detail on what is desired from a regional HMIS. The primary benefits foreseen in working with data at a regional level include:

- The ability to bring together a consolidated de-duplicated picture of homelessness across the region in order to better understand the characteristics and mobility patterns of the homeless population, and how this affects individual communities and agencies within the region.
- The ability to identify the prevalence of chronic homelessness⁷ across county boundaries, thereby enabling service agencies to offer and provide appropriate services to the affected homeless population.
- The ability to provide funders of homeless service agencies a better regional picture of the needs of homeless individuals and families, and the ability to better target their investments in housing and homeless services.

c. Determining what the system must do

Once the vision, mission, and/or benefits have been clearly articulated, the next logical order of business is to define the project's specific programmatic goals and functionalities. The key questions here are: *What must the system accomplish? What must it be able to do in order to fulfill the vision and benefits?* These questions cannot be repeated enough. And, once again, the importance of the consensus building process cannot be overly emphasized. To increase the odds of project success, all the group members must clearly understand and support the project's specific goals and functionalities, which themselves must meet specific regional needs articulated by group members.

In BACHIC's case, this process was complicated by the fact that CoC members and other stakeholders entered the discussion with sometimes divergent notions of what a regional project should accomplish and how the project should relate to local HMISs. These included all of the following ideas:

- Support local HMIS planning and implementation by sharing information and practices;
- Receive funding for and help with local HMIS planning and implementation;
- Collaborate to achieve local cost savings and efficiencies;

⁶ Certain sub-parts of PPI data elements will be used to create a Regional Unique Identifier (RUID) that allows for de-duplication of client data across the region. The RUID will be covered in some detail in a future white paper.

⁷ According to HUD, a person who is "chronically homeless" is an unaccompanied homeless individual with a disabling condition who has either been continuously homeless for a year or more OR has had at least four (4) episodes of homelessness in the past three (3) years. See the 2006 CoC Application, Questions and Answers, p. 7, available on-line at: <http://www.hud.gov/library/bookshelf12/supernofa/nofa06/grpcoc.cfm>.

- Merge local data for regional analysis;
- Track cross-county movement of homeless people;
- Study regional chronic and other homelessness patterns;
- Identify effective program strategies using regional data;
- Share HMIS data between adjoining CoCs; and
- Create single regional HMIS implementation.

As described more fully below, the regional data warehouse concept was *the* solution chosen to for eventually achieving the goals of merging local data for regional analysis, tracking the movement of homeless people, studying chronic and other homelessness patterns, and identifying effective program strategies. The BACHIC process, with other regionally based technical assistance and meetings (described above), has promoted both information sharing and cost savings and efficiency efforts. Momentum to develop *local* HMISs precluded a single *regional* HMIS.

d. Context of local HMIS planning and development

Early on, the group understood that the successful implementation of local HMISs was a necessary pre-condition to the creation of a regional data project. Without local HMISs, there simply would be no regional data. Moreover, when BACHIC began participating CoCs had not yet implemented HMIS and a number of CoCs had either not begun or were only in early stages of HMIS planning. Therefore, the group quickly turned its attention to the development of local HMIS Project Plans. The idea was to provide technical assistance resources to directly support the local planning process. This in itself was an important outcome of the BACHIC process. Therefore, the Schwab Foundation funded Community Technology Alliance and consultants to prepare local HMIS Project Plans for the following six CoCs:⁸

Alameda County

San Mateo County

Contra Costa County

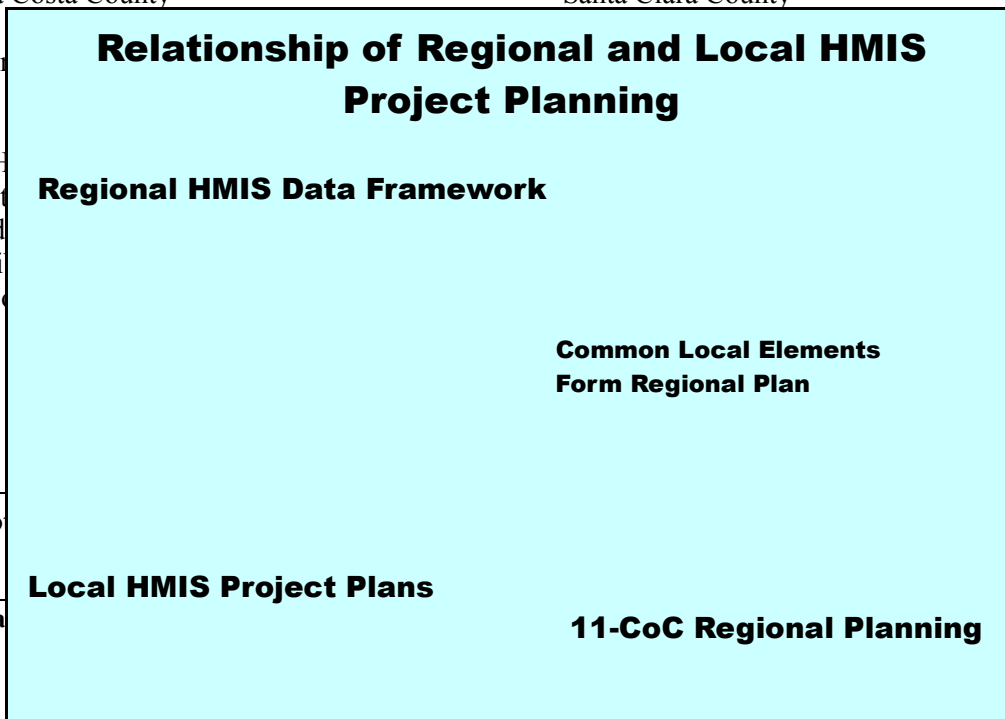
Santa Clara County

Monterey County

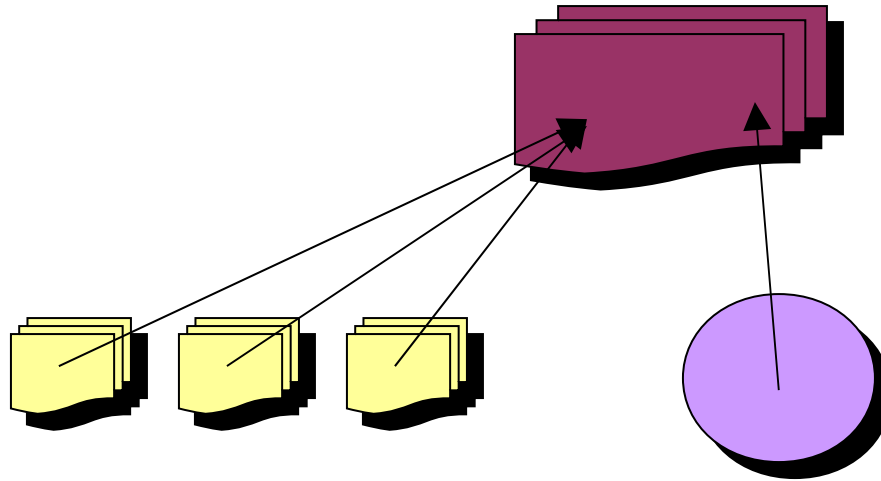
Each H...
consult...
funded...
(descri...
ments...

⁸ The o...

The Ba...



e-mentioned
ndation also
egional plan
mmon ele -



e. Regional data framework strategy

The basic plan for RHINO was set forth in the attached regional plan called the BACHIC Regional HMIS Data Framework (Regional Data Framework—Appendix C). Building on local and regional planning processes, the Regional Data Framework set forth the:

Regional needs to be met	Approach to de-duplication of data
Vision of regional data	Approach to data security and confidentiality
Data warehouse approach to the vision	Implementation steps
Data to be collected	Timeframe

Although the Regional Data Framework was completed about three years ago (January 2004), the basic outlines of a plan for RHINO have remained the same, although some of the design details (to be covered in the second white paper) have changed and the timeframe provided unrealistic for the reasons described above. The lesson learned bears repeating: Expect the regional process to take considerably more time than you originally expected.

f. Selection of the regional data warehouse option

The idea in the vision of a “Regional HMIS” as a “rich repository of information” predated the concept of a regional data warehouse. At the recommendation of Community Technology Alliance during its February 20, 2004 meeting, BACHIC chose the option of a data warehouse from among other possibilities as the most practical means under the circumstances for achieving the Regional HMIS vision. This was because local HMISs were going in different directions in terms of software selection, hosting configuration, and data requirements. A data warehouse approach would allow the merging of data from the vari-

ous systems by first mapping them to a common standard and using a regional unique identifier for the de-duplication of client records. As stated in the Regional Data Framework:

In reviewing where each of the counties is with its own implementation plans, the one thing that stands clear is that it is unlikely a “common,” standard HMIS system will be implemented throughout the region. Throughout the counties various approaches are being taken from purchasing commercial software packages ... to customizing local homegrown solutions to be compliant with the evolving HUD data standard. As a result of this heterogeneity, the most practical solution for moving forward with the regional data is to create a separate, regional database that incorporates a composite snapshot of all the respective local systems.

g. Selection of a regional data project provider

The BACHIC region benefits from the fact that it contains a technology-focused nonprofit agency in Silicon Valley—Community Technology Alliance—committed to bringing technology and information to bear in the fight against homelessness. The mission of Community Technology Alliance is “to end and prevent homelessness by linking and networking communities through technology.” RHINO builds on earlier work led by Community Technology Alliance under the BAHA project (mentioned above) to implement web-based and other technology solutions to reduce homelessness in the Bay Area.

Community Technology Alliance’s role when BACHIC began was that of an outside project consultant funded by the Schwab Foundation to conduct a range of research and planning activities to develop a collaborative regional project. When the idea of a regional data project emerged in 2003, it seemed that Community Technology Alliance was the obvious choice for the task given its agency history, interest in the project, staff skills, and existing technology resources. Nevertheless, group members felt it would be appropriate to assess the interest of local universities, such as Stanford University and the University of California at Berkeley, which might bring to the project additional financial, technical, and analytical resources. Thus, a Schwab Foundation request for proposals (RFP) was made available to local universities and to Community Technology Alliance. Community Technology Alliance was easily confirmed as the regional project provider.

Anyone planning an HMIS data warehouse project should be thinking early on about who may have the interest and capacity to implement the project. Questions to consider include:

- Which organizations have a history and interest in homelessness data projects?
- What are the skills, technical resources, and financial resources needed from the chosen organization?
- What are the less tangible people and collaborative skills needed from the organization?
- Thinking “outside the box,” who from beyond the region, from the private sector, or from non-homelessness disciplines might be of help?
- Is a formal “vendor” really desired, or a more informal “collaborative partner”?
- How exactly will the selection be made? RFP?

h. Ongoing planning and decisions

While the Regional Data Framework set forth the overall data warehouse strategy, many *specific decisions* have been (or still are) needed to carry the project forth. These have to do with all facets of the project, including, for example, collaborative relations, systems design, technology choices, privacy and security, policies and procedures, implementation schedule, data quality, data analysis, and budgeting and funding. (Many of these facets will be subjects of the second and third white papers in this series.) With the past turnover in BACHIC membership, many decisions have been made and re-made, which has been time-consuming but has helped to cement consensus.

Over time, various planning tools have been used for decision tracking. The most recent tool, the BACHIC and RHINO Project Planning and Decision Document (Planning and Decision Document—Appendix D), identifies forty-seven separate decisions, covering all project facets. Decisions are divided into “policy” and “technical” categories to designate the general decision-maker level (helping to avoid the confusion that often occurs when IT staff review higher policy issues and when CoC coordinators consider technical details). In addition, each decision includes detail in categories for action, deliverable, decision-maker, responsible party, due date, status, and comments.

The Planning and Decision Document is a working document to be regularly changed and updated. Decisions already made are shaded in gray. Those not made will be included as needed on future BACHIC agendas for discussion and decision. Additional decisions may be added. The document is in a handy spreadsheet format easily sorted for different purposes. For example, sorting the “type” column separates the policy and technology decisions. Sorting the “due date” column creates a project timeline.

i. Overcoming key barriers to buy-in

Because regional HMIS data warehouse projects are entirely voluntary, work to gain participant buy-in is an absolute must. “Buy-in” means that participants (and other stakeholders) understand and agree with the project’s goals and methods for achieving the goals. If CoCs don’t buy in to the project, they will not participate. The path to buy-in includes making a compelling case for the value of the regional data and the utility of the regional data warehouse format. It also includes addressing participants’ specific concerns and issues and making adjustments accordingly. People will support a regional data warehouse if they perceive its value to be greater than its costs.

Following is a summary of some noteworthy BACHIC buy-in practices:

Include Supporters of Regional Strategies: Identify and include supporters of “regional” strategies for resolving homelessness. BACHIC participants have a history of collaborating regionally and understand that homelessness does not occur in a CoC geographic bubble.

Enlist Funders With a Regional Focus: Enlist the support of funders who value regional collaboration. Participants may be persuaded if their funding sources support the project. In BACHIC’s case, the Schwab Foundation’s support was critical to gaining buy-in.

Explain the Value of Regional Data: Build a strong case for why regional data is important and useful. A regional data warehouse has the potential to revolutionize the regional understanding of homelessness. BACHIC members are particularly keen to document for the first time the cross-county migration patterns of homeless people and to understand which programs work.

Reach Out to All Stakeholders: Make an effort to reach out to and inform non-participating

stakeholders. For BACHIC, this has included: periodic briefings of the ABAG Regional Homelessness Task Force and the RSC; regular updating of the local CoCs and their HMIS committees; continuing liaison with HMIS IT staff; and briefings of high-level officials.

Listen to Participants' Issues and Concerns: Listen carefully to the specific issues and concerns of participants. Among major concerns for BACHIC participants: the uncertainty about costs and funding for local participation in RHINO; the need for a local decision process before committing to participate; the need for assurances that local data provided would be kept sufficiently confidential; and the need to manage the release of data to avoid negative consequences.

Provide Answers and Solutions to Participants' Concerns: Provide specific answers where possible to issues and concerns above. For example, in response to concerns about local costs and funding, Community Technology Alliance prepared a typology (with staffing, time, and technology needs) for local use in calculating participation costs.

Show All the Benefits: Highlight the additional benefits of collaborating regionally. Most BACHIC participants kept coming back to meetings to gain HMIS information and to share practices even before they supported a data warehouse. Continued participation kept them engaged and increased their support over time.

Be Persistent: Gaining buy-in can be about changing minds. This process can take time. Previous opponents of a regional HMIS data project are now among its strongest supporters.

Remain Positive: Despair in the face of opposition is self-fulfilling. On the other hand, a healthy positive outlook is key to changing people's minds.

j. Summary of lessons learned and suggestions

LESSONS LEARNED: DEVELOPING A VISION OF REGIONAL DATA AND COLLABORATION

1. Reaching consensus on a regional overall vision is the group’s most important single activity.
2. Start by crafting statements of vision, mission, and/or benefits. This helps the group to identify core, shared values from which all further decisions can follow.
3. Focus on what specifically the regional system must be able to accomplish—its programmatic goals and required functionalities. Review all possibilities and identify those options for which there is the most support.
4. Gather information for and assess the practical pros and cons of each potential option. This will help the group choose the best overall approach.
5. Expect the decision process to take more time than expected and to be repetitive. This is positive because it helps cement the consensus and moves everyone toward common values and understandings over time (including any new members).
6. Build the regional vision from the ground up. The regional project should rest as much as possible upon local HMIS commonalities, e.g., planning approaches, platforms, software, data collected, policies and procedures, etc.
7. Create a logical work plan and time line. Although any kind of structured work planning can be very useful, it makes sense to include all known critical decisions and actions needed, outcomes or products from each decision or action, who is responsible for decisions and actions, and when exactly the decision or action should be completed.
8. Remember that “buy-in” is a must for all voluntary regional projects. Most importantly, listen to all local concerns and issues and always seek workable answers and solutions.

Appendices: Sample Materials

The following appendices consist of sample planning materials to help HMIS data warehouse planning groups. Some have been slightly edited or reformatted for ease of publication. These documents are intended as convenient models for planners with similar needs. However, they should not be adopted without a process of review and adaptation to local needs.

Appendix A. Project Overview and Guiding Principles for RHINO

The BACHIC group created this document to record the basic understandings and expectations regarding each CoC's participation in the RHINO project.

Appendix B. Shared Regional HMIS System Memorandum of Understanding (MOU)

Community Technology Alliance, the Contra Costa County CoC, and the Monterey County CoC drafted this MOU regarding a possible shared approach to HMIS management. Although these parties eventually decided upon a different approach to HMIS and thus did not sign the MOU, the document remains a potentially useful model for other regions.

Appendix C. BACHIC Regional HMIS Data Framework

Community Technology Alliance prepared this document, which set forth the basic plan for creation of a regional data warehouse and which served as the basis for BACHIC's selection of the data warehouse alternative for achieving the group's vision.

Appendix D. BACHIC and RHINO Project Planning and Decision Document

Community Technology Alliance wrote this document as a tool for BACHIC to identify and track the status of all key planning, design, and implementation decisions that need to be made for RHINO. The document is also used to set meeting agendas (i.e., decisions needed soon are put on the next BACHIC agenda).

Appendix A. Project Overview and Guiding Principles for RHINO

Bay Area Counties Homeless Information Collaborative (BACHIC)

PROJECT OVERVIEW AND GUIDING PRINCIPLES FOR THE REGIONAL HOMELESS INFORMATION NETWORK OPPORTUNITY (RHINO)

This document is intended to serve as a statement of guiding principles for the Regional Homeless Information Network Opportunity (RHINO), a project of the Bay Area Counties Homeless Information Collaborative (BACHIC). BACHIC is a collaborative composed of representatives of eleven Continuum of Care (CoC) in the San Francisco and Monterey Bay Area. The participating CoCs are:

- Alameda County wide Continuum of Care,
- Contra Costa County Continuum of Care,
- Marin County Continuum of Care,
- County of Monterey Continuum of Care,
- Napa County Continuum of Care,
- San Francisco County Continuum of Care,
- San Mateo County Continuum of Care,
- Santa Clara County Continuum of Care,
- Santa Cruz County Homeless Action Partnership,
- Solano County Continuum of Care,
- Sonoma County Continuum of Care,

This statement of guiding principles documents the agreements made to date by BACHIC relating to the RHINO project. It is intended to provide BACHIC with guiding principles and to document the CoCs' commitment to the project.

I. Project Overview

Following Congressional direction, communities that receive Department of Housing & Urban Development (HUD) funding for homelessness-related services must begin to use a computerized system to collect and manage data on their homeless clients by October 2004. HUD refers to this system as "Homeless Management Information System" (HMIS).

As defined by HUD, HMIS is a computerized data collection tool designed to capture client-level information over time on the characteristics and service needs of men, women, and children experiencing homelessness. The primary purpose of the system is to gather and aggregate data on homelessness at local and national levels to accurately describe the scope of the problem and

provide the information needed to design effective efforts to ameliorate it.

HUD envisions that by implementing an HMIS system within each Continuum of Care, homeless individuals, agency directors and program managers, as well as public policy makers will all benefit. The RHINO project intends to leverage the core continuum-level systems to provide a richer, fuller regional picture of the homeless population and the services they receive, better enabling agencies to collaborate across continuum boundaries, and allowing public policy makers to address homelessness issues on a regional basis.

In response to this Congressional direction, the Continua of Care within the eleven counties of the greater San Francisco and Monterey Bay Area are in the process of planning and/or implementing HMIS systems within their jurisdictions. These counties have come together as the BACHIC group to leverage learning across the multiple communities, and to facilitate the creation of RHINO, a “Regional HMIS” system that brings county HMIS data together for a composite picture of the homeless population and services across the BACHIC region.

II. Purpose

The vision of RHINO is to enhance collaboration and data collection capabilities, leading to a better understanding of the homeless population in the region. RHINO will be a rich repository of information that will provide data, which will be utilized to analyze trends, gaps in services, mobility patterns among homeless people, and inform homeless funding and policy.

The purpose of RHINO will be to give policy makers, service providers and funders a better understanding of homelessness within the region. The analysis of regional data will allow for better planning and resource management and an increased ability to address the present and future needs of homeless people in the BACHIC region.

The primary benefits foreseen in working with data at a regional level include:

- The ability to bring together a consolidated unduplicated picture of homelessness across the region in order to better understand the characteristics and mobility patterns of the homeless population, and how this affects individual communities and agencies within the region.
- The ability to identify the prevalence of chronic homelessness across county boundaries thereby enabling service agencies to offer and provide appropriate services to the affected homeless population.
- The ability to provide funders of homeless service agencies a better regional picture of the needs of homeless individuals and families, and the ability to better target their investments in housing and homeless services.

III. Guiding Principles

At its meeting on February 20, 2006, BACHIC understood and agreed to the following as minimum guiding principles for RHINO:

1. The individual Continua of Care retain responsibility for their strategic HMIS planning within their county. They are ultimately responsible for the operation of the system within their respective community.
2. Each Continuum of Care, and their respective agencies, will retain ownership of any and all data entered into RHINO on their behalf. Each Continuum of Care will be responsible for developing and implementing policies and procedures regarding what individuals or organizations from their community will have access to their data in the warehouse, how it may be accessed, and how it may be used. RHINO will not disclose, or release any county specific information in the system to a third party, except under direction of the owning Continuum of Care.
3. Each Continuum of Care will be responsible for its own data analysis relating to its own specific community.
4. HUD's Universal Data Elements and Program Level Data Elements will form the basis of collected data, to the extent that each Continuum of Care is able to provide such data.
5. All Continua of Care involved in the RHINO project recognize that the long-term viability of the project may depend on each participating CoC making on-going financial commitment to the project.
6. This Statement of Guiding Principles is an evolving document and will be subject to periodic changes.

IV. Responsibilities of the Parties

The members of RHINO agree to undertake the following tasks by December 31, 2007, in order to move towards project implementation:

1. The BACHIC counties agree to participate in a joint fundraising effort. A fundraising sub-committee shall be established to spearhead these efforts.
2. BACHIC shall establish a budget for the project and determine the projected share of cost for each community.
3. BACHIC is to devise guidelines on data requirements and other technical functions.
4. BACHIC agrees to work on a standard transference of data between the counties' HMIS systems and the RHINO project, and to develop security standards involved with transference of data.
5. BACHIC will decide guiding principles and conditions governing release, analysis, and reporting of aggregate regional data.
6. BACHIC Counties agree to participate in a joint steering committee forum (including the RHINO project consultant(s) or contractor(s)), which will meet on a periodic basis to review program status, provide guidance around strategic issues that arise within the

RHINO project, and make policy decisions as needed.

7. BACHIC members will reach agreement through a consensus process, however when needed, voting will occur. Each Continuum will have one vote.

Guiding Principles approved, subject to future amendment, November 29, 2006 meeting.

Appendix B. Shared Regional HMIS System Memorandum of Understanding (MOU)

Shared, Regional HMIS System

MEMORANDUM OF UNDERSTANDING (MOU)

Between and Amongst

**Contra Costa County Continuum of Care,
County of Monterey Continuum of Care
and Community Technology Alliance**

June 30, 2004

Section 1: Background and Purpose

Following Congressional direction, communities that receive Department of Housing & Urban Development (HUD) funding for homelessness related services must begin to use a computerized system to collect and manage data on their homeless clients by 2004. HUD refers to this system as “HMIS” – Homeless Management Information System.

In response to this Congressional direction, the Continuums of Care within the 11 counties of the greater San Francisco Bay Area are in the process of planning and/or implementing HMIS systems within their jurisdictions. These counties have come together as a group (known as the Bay Area Counties Homeless Information Collaborative, or “BACHIC”) to leverage learning and expertise across the multiple communities, thereby increasing the overall likelihood of project success and decreasing the corresponding risks and uncertainties.

As part of the BACHIC collaboration, Community Technology Alliance (CTA) has been approached to potentially manage a shared regional system on behalf of multiple counties. (CTA is the host agency for the HMIS implementation within the Santa Clara County Continuum of Care.) A subset of the BACHIC membership has expressed interested in this implementation because of the potential of obtaining costs savings through costs sharing. The purpose of this MOU is to document this agreement and the commitment of these communities to leverage a shared, regional HMIS system managed by CTA.

Section 2: Agreement / Scope of Work

- CTA will contract with Vendor, on behalf on the Continuums of Care, for a single, shared implementation of the HMIS software application and the corresponding necessary IT hosting services required to operate the application on behalf of the continuums.
- CTA will manage the ongoing relationship with Vendor, as well as provide the central application administration tasks necessary for the deployment and ongoing operations of a shared regional system.
- The Continuums of Care agree, as a group, to coexist on a shared implementation of the application system, to share responsibility for funding the overall costs of the system, and to share responsibility for oversight of the system.
- The Continuums of Care agree to provide the continuum-specific application administration tasks necessary for the deployment and ongoing operations of the system, and as allowed by the application software.
- The Continuums of Care retain responsibility for their own strategic HMIS planning. They are ultimately responsible for the deployment of the system within their respective community.
- Each Continuum of Care, and their respective agencies, retains ownership of any and all data entered into the HMIS system on their behalf. Each Continuum of Care owns responsibility to ensure that appropriate policies and procedures are in place governing the access, use, and dissemination of data stored in the system. CTA has no rights to data stored in the system and will not use, disclose, or release any information in the system to a third party, except under direction of the owning Continuum of Care.

Section 3: Roles and Responsibilities

Roles and Responsibilities of each of the partners in this memorandum of understanding are attached as Appendix A.

Section 4: Budget

In exchange for services, the Continuums of Care agree to jointly cover the overall costs of the system, including CTA's fees for service. The costs of the system are divided into two groups - Shared Regional Costs, and Variable Costs based upon Additional Users.

Shared regional costs reflect those portions of the implementation that, where by joining together, the continuums are able to leverage the expense across the entire region. The continuums agree to divide the shared regional costs in equal shares of 50%, based on two continuums participating.

Variable per user costs reflect the additional expenses associated with the setup, support and administration of the system that occurs based on the overall workload generated by individual users and continuums. These costs increase as the number of users in the system increase. The continuums agree to each pay their own individual share of the variable per user costs, based on the total number of additional user licenses acquired for their community.

CTA will contract separately with each continuum, using standard agreed upon fees. The fee per continuum will vary only to the extent that the total number of users per continuum varies.

Appendix B. sets out the budgetary requirements. These are based on current negotiations. All rights are reserved by all signatories of this agreement in the event that changes in underlying rates results in a total change in the budgetary requirements of greater than 10%.

Section 5: Management and Oversight

As joint partners of the HMIS system, the Continuum of Care Coordinators agree to participate in a joint steering committee forum, facilitated by CTA, which will meet on a periodic basis to review program status and provide guidance around strategic issues that arise with the system. Among other responsibilities, this forum will be responsible for determining how, if any, additional interested Continuums of Care within the region would be accommodated in the system in the future.

Section 6: Assumptions

Number of Continuums Participating

All parties commit to this memorandum of understanding with the understanding that two Continuums of Care wish to partake in a shared regional HMIS system. This memorandum of understanding is subject to change in the event that one or more of the parties decline to participate, or another continuum desires to join.

Budgetary Pricing

The data presented in this MOU for products and services is based on information received from the Vendor. To the extent that there may be changes during this process, this memorandum of understanding will still remain in effect in so far as the total budgetary change does not exceed 10%.

Section 7: Termination Clause

In the event that one or more county/ies may wish to terminate this agreement, 90 days written notice is required. Within the first 30 days said county must negotiate with the remaining partner counties on the implications of termination. If termination takes place it is understood that no refund of fixed or upfront costs will be provided. Each of the partnering entities fully

understands that it is liable for its portion of the first year's fixed and/or upfront costs regardless of termination.

Section 8: Signatures

The undersigned Continuum of Care representatives, on behalf of their respective continuums, agree to form and participate in a shared regional HMIS system, managed by CTA on behalf of each of the individual continuums.

Period of Agreement

This MOU will become effective upon signature of all parties and shall remain in effect for 2 years.

Signatures	Date	Signatures	Date
_____	_____	_____	_____
Director of Homeless Programs		Continuum of Care Coordinator	
Contra Costa County Continuum of Care		County of Monterey Continuum of Care	

Executive Director
Community Technology Alliance

Appendix B Continued: Roles and Responsibilities

Shared, Regional HMIS System

Roles and Responsibilities

The implementation of a shared, regional HMIS system requires the active coordination of agency level, continuum level, and regional level resources. The following outlines the roles and responsibilities of each of these three main levels of administration, which are needed for the successful management of a regional system.

In describing roles and responsibilities, this document does not attempt to spell out a specific headcount requirement on required FTE needed to perform a role. This amount would vary based on the size, complexity, and requirements of the organizations involved. Instead this document focuses on the responsibility of a “team” which, depending on the situation, could be comprised of one or more individuals.

Regional HMIS Administration (Central)

The *Regional HMIS Administration* team is responsible for the overall coordination, implementation and execution of the HMIS system, on behalf of multiple Continuums of Care, across the region.

- Manage the implementation and on-going usage of the HMIS system on behalf of the entire region. Act as a single point of contact between the different Continuums of Care and the software Vendor.
 - Sign and manage the contractual agreement with the Vendor on behalf of the multiple Continuums of Care within the region, procuring the HMIS application software and ensuring the provision of appropriate hosting and IT Management services for a single, shared, regional HMIS system.
 - Oversee, on behalf of the region, the delivery of IT and application support services by the Vendor, who are necessary for the setup, operations, and on-going maintenance of the HMIS system.
 - Coordinate funding from the multiple Continuums of Care and manage budget and cash flow in order to ensure the necessary financial resources to cover regional expenses and pay Vendor for software and services rendered.
 - Work with Continuum of Care HMIS Administration teams to plan and implement the system within their continuums. Ensure Continuum of Care HMIS Administration teams receive appropriate training as required for implementation and ongoing outreach and support.

- Provide technical assistance to the Continuum of Care HMIS Administration teams. Facilitate problem resolution in the event continuums are experiencing difficulties with the software and/or system. Whenever possible, resolve issues which local Continuum of Care HMIS Administration could not adequately resolve. Escalate problems to the application software vendor and hosting service provider when necessary.
- Facilitate regional forum(s) to ensure the agreement on standard application configuration and usage, to adopt and enforce regional operating policies and procedures, and to inform stakeholders on the changes to the HMIS system.
- Perform application administration tasks as necessary for the setup and ongoing operations of the system, including:
 - Centrally manage the system-wide configuration on behalf of the multiple Continuums of Care, including:
 - Initial application setup and the first level, cross continuum structure within the system.
 - Configuration of standard pick lists provided with the product.
 - Configuration of standard client assessments provided with the product.
 - Procure, allocate and administer user license allocation across the various continuums within the system.
 - Manage user accounts, logins, and passwords for Continuum of Care Administration teams.
 - In coordination with local Continuum of Care HMIS Administration, create and manage agency-specific application configurations, on behalf of individual agencies within the system and including client assessment forms, data fields and/or pick lists.
 - In coordination with local Continuum of Care HMIS Administration, advise on the creation and management of all custom data importation and exportation routines necessary to integrate external data into the HMIS system, and export internal data from within the HMIS system, as required on behalf of individual agencies, Continuums of Care, or other outside policy makers and funders (such as the potential inclusion of HMIS data in a broader regional data warehouse.)
 - Manage the creation and posting of system-wide news bulletins within the software as necessary.
 - Audit usage of the application in order to ensure that appropriate standard policies and procedures are agreed upon, in place and followed.

- Monitor system usage over time in order to ensure that appropriate capacity planning is in place to proactively plan for future system growth and expansion.

Continuum of Care HMIS Administration (Continuum Local)

The *Continuum of Care HMIS Administration* team is responsible for the coordination, implementation and execution of the HMIS system within a Continuum of Care.

- Facilitate continuum-wide strategic planning around the HMIS system. Determine the rollout strategy and prioritization among agencies within a continuum. Monitor progress within the continuum of the system implementation process.
- Establish policy and procedures across the continuum governing HMIS access, use, and data dissemination; such as standardized intake forms, standardized client consent to release forms, and standardized user agreement forms with the agencies. Review and monitor adherence across agencies to ensure security, confidentiality and quality of the information within the system.
- Manage the implementation and on-going usage of the HMIS system on behalf of the Continuum of Care. Act as a single point of contact between homeless service provider agencies within the continuum and the Regional HMIS Administration.
 - Coordinate funding sources and manage budget and cash flow to ensure the necessary financial resources within the continuum needed to support the local implementation and pay central suppliers for the on-going operations of the system.
 - Participate in regional forums to ensure regional standards meet the needs of the local continuum and visa versa.
 - Work with local agency administrators to plan and implement the system within their agencies. Ensure agency administrators are properly trained, including initial training and ongoing outreach and support, such that they are able to do end user level training, as well as data analysis and reporting as required by the agency.
 - Provide technical assistance within the continuum. Facilitate problem resolution in the event agencies are experiencing difficulties with the software or system. Resolve issues locally, within the continuum whenever possible, and escalate problems to the regional team when necessary.
 - Perform data analysis and reporting as required to meet continuum-wide reporting requirements and to ensure appropriate data quality standards on the continuum-wide data.
 - Facilitate stakeholder forum(s) within the continuum to keep participants inform on the changes to the HMIS system and the corresponding operational policies and procedures.

- Perform continuum-wide application administration tasks as necessary for the ongoing operations and as allowed by the software, including:
 - Perform initial agency setup and configuration within the system.
 - Manage user accounts, logins and passwords for local agency administrators.
 - Provide standard and/or custom reporting across the continuum, as required.
 - Audit usage across the continuum and ensure that standard policies and procedures are followed.
 - Manage the creation and posting of continuum-wide news bulletins within the software as necessary.
 - Coordinate the process by which local agency configurations are gathered and submitted to the regional HMIS administration team.

Agency HMIS Administration (Agency Local)

The *Agency HMIS Administration* function is responsible for the coordination, implementation and execution of the HMIS system within a specific homeless service provider agency.

- Facilitate the planning for the HMIS system within the agency. Determine the rollout strategy and prioritization among programs and potential end users. Monitor progress within the agency of the system implementation process.
- Participate in the establishment of policy and procedures across the continuum governing HMIS access, use, and data dissemination, such as standardized intake forms, standardized client consent to release forms, and standardized user agreement forms with the agencies. Review and monitor adherence within the agency to ensure security, confidentiality and quality of the information within the system.
- Manage the implementation and on-going usage of the HMIS system within the Agency. Act as a single point of contact between HMIS system users within the agency and the Continuum of Care HMIS Administration team.
 - Plan and implement the HMIS system within the agency. Ensure agency users are properly trained, including initial training and ongoing outreach and support.
 - Perform data analysis and reporting as required to meet local agency reporting requirements and to ensure appropriate data quality standards on agency level data.
 - Provide technical assistance within the agency. Facilitate problem resolu-

tion in the event users within the agency are experiencing difficulties with the software or system. Resolve issues locally, within the agency whenever possible, and escalate problems onto the Continuum of Care HMIS Administration Team when necessary.

- Participate in forum(s) within the continuum to keep informed on the changes to the HMIS system and the corresponding operational policies and procedures.
- Perform agency specific application administration tasks as necessary for the ongoing operations, and as allowed by the software, including:
 - Manage agency level profile information stored within the system.
 - Manage user accounts, logins, and passwords for local agency users.
 - Provide standard and/or custom reporting within the agency, as required.
 - Audit agency staff usage of the system to ensure that standard policies and procedures are followed.
 - Manage the creation and posting of agency specific news bulletins within the software, as necessary.
 - Work through the Continuum of Care HMIS Administration Team and the Regional HMIS Administration Team to configure client assessments, individual data fields, and/or pick lists to meet the specific needs of the agency.

BACHIC
Regional HMIS Data
Framework

January 2004

Prepared by

Community Technology Alliance

for the

Bay Area Counties Homeless Information Collaborative (BACHIC)

through a grant from the

Charles and Helen Schwab Foundation

Section 1: Background and Introduction

Introduction

Following Congressional direction, communities that receive Department of Housing & Urban Development (HUD) funding for homelessness related services must begin to use a computerized system to collect and manage data on their homeless clients by 2004. HUD refers to this system as “HMIS” – Homeless Management Information System.

In response to this Congressional direction, the Continuums of Care (CoC) within the 11 counties of the greater San Francisco and Monterey Bay Areas have come together as a group (known as the Bay Area Counties Homeless Information Collaborative, or “BACHIC”) to leverage HMIS learning and expertise across the multiple communities, thereby increasing the overall likelihood of project success and decreasing the corresponding risks and uncertainties.

As part of the BACHIC collaboration, Community Technology Alliance (CTA) has been enlisted, through a grant from the Charles and Helen Schwab Foundation, to facilitate the creation of a framework for a “Regional HMIS” system that brings together a composite picture of the homeless population and services across the BACHIC region. This document presents the definition of this framework.

What is a Homeless Management Information System?

As defined by HUD, an HMIS is a computerized data collection tool designed to capture client-level information over time on the characteristics and services needs of men, women, and children experiencing homelessness. The primary purpose of the system is to gather and aggregate data on homelessness at local and national levels to accurately describe the scope of the problem and the effectiveness of efforts to ameliorate it.

HUD envisions that by implementing an HMIS within each continuum of care, homeless individuals, agency directors and program managers, as well as public policy makers will all benefit. The Regional Data initiative intends to leverage the core continuum-level systems to provide a richer, fuller regional picture of the homeless population and services, in order to better serve the homeless population on a regional basis, to better enable agencies to collaborate across continuum boundaries, and to enable public policy makers to address homelessness issues on a regional basis.

What is the BACHIC Region?

Bay Area Counties Homeless Information Collaborative (BACHIC) represents a geographic region comprised of the 11 central California coastal counties surrounding the San Francisco and Monterey Bay areas. This entire metropolitan region represents a combined population of approximately 7.5 million people. The homeless population in the region is serviced through 11

separate Continuum of Cares, each chartered within individual county boundaries.

During the fiscal year 2002 Continuum of Care Competition, HUD awarded the BACHIC Region over \$61,000,000 in Homeless Assistance Awards, representing approximately a third of the overall California state awards of over \$186,000,000.

BACHIC Region



Section 2: Purpose / Need / Goal of a Regional HMIS

Vision for working with Regional Data

As part of the overall collaboration among the 11 counties of the greater bay area, the Regional HMIS Data project represents an initiative to consolidate HMIS data on a regional basis, specifically for reporting and analysis purposes.

When completed, the Regional HMIS Database will be a rich repository of information on the homeless population and homeless services within the region that will better enable policy makers, service agencies, and funders to understand and service the needs of the homeless within the community.

Value of working with Regional Data

Coordinating efforts across the broader region will leverage individual Continuums of Care HMIS systems into a more complete regional system that will better serve the needs of all the constituencies involved. The primary advantages foreseen for working with data at a regional level include:

- The ability to bring together a consolidate, non-duplicated picture of homelessness across the region in order to better understand the dynamics and migration patterns of the homeless population and how this effects individual communities and agencies within the region.
- The ability to identify the prevalence of chronic homelessness which crosses county boundaries thereby enabling service agencies to offer and provide more appropriate services to the affected homeless population.
- The ability to provide funders of homeless service agencies a better regional picture of the effectiveness of the programs they sponsor and the ability to better target their investments with the homeless population.

Among the specific data analyses that will be possible with a regional system are:

- Developing an unduplicated regional count of homeless persons, including pertinent demographic information.
- Tracking client movement across continuum boundaries throughout the region.
- Tracking service usage across continuum boundaries and throughout the region.
- Quantifying the effect of service-level gradients across communities and understanding the causes, trends and effects of mobility.

What Regional HMIS Data is not.

While it is important to understand what the Regional HMIS is capable of doing, it is also important to understand what the system is not.

*Will the Regional HMIS Database be **the** HMIS system for the whole region?*

A common misunderstanding with the Regional HMIS Database project is in its relationship with the county level HMIS systems. The regional project is not meant to be a “one size fits all” approach. In each county, teams are already working diligently to implement HMIS systems, specific to the needs of their community, which are also compliant with the emerging HUD standard. The Regional system is not meant to be a replacement for these local county HMIS systems. Instead the Regional system leverages the existence of these local systems as a source of information, to build a consolidated regional database, which can be analyzed to understand the regional aspects of the homeless population and homeless services.

Will the Regional HMIS Database be a “shared” HMIS system for individual continuum of care use?

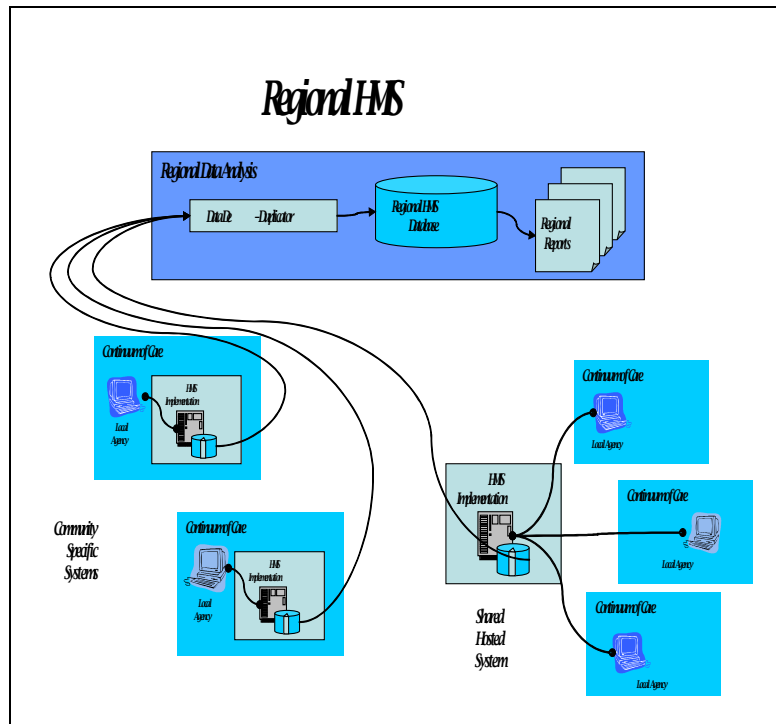
CTA is currently involved in two different and distinct regional initiatives which are easily confused. In addition to the Regional HMIS Data Initiative discussed in this document, CTA is also working with several counties in the region on a potential shared HMIS system using a common HMIS implementation. The underlying objective of this other initiative is for communities to join together to share costs and expertise on the implementation of their local HMIS system. It is unfortunate that both systems are often referred to as a “Regional HMIS” system in that the other initiative is actually just a local system leveraged among multiple counties, not the consolidated, regional collection of HMIS data as envisioned in Regional HMIS Data Initiative.

Section 3: Building blocks for a regional HMIS

A Data Warehouse Approach

In reviewing where each of the counties are with their own implementation plans, the one thing that stands clear is that it is unlikely a “common”, standard HMIS system will be implemented throughout the region. Throughout the counties various approaches are being taken from purchasing commercial software packages, such as ServicePoint or Metsys, to customizing local homegrown solutions to be compliant with the evolving HUD data standard. As a result of this heterogeneity, the most practical solution for moving forward with the regional data is to create a separate, regional database which incorporates a composite snapshot of all the respective local systems.

For those familiar with IT technology and terminology, the proposed approach follows that which in the industry today is commonly referred to as a data warehouse approach.⁹ What this basically means is that at the regional level, a separated database is maintained that contains a consolidation of the various local HMIS systems. On a periodic basis, data is extracted from the local HMIS systems, processed to correct any known incapability’s between the systems, and loaded into a regional database. Once captured, this data is combined with the rest of the regional information in order to analyze trends and patterns across the region and over time.



Design Considerations for Regional Data

As with the planning of the local HMIS systems, three important issues must also be addressed with the regional system, including what level of data to collect regionally, how to match duplicated clients, and how to maintain client confidentiality. The following is the current thinking on the potential options available to address these obstacles.

⁹ In a recent HUD Technical Assistance report on Integration Strategies, this approach was referred to as “Periodic, One-way Analysis Integration”. “Homeless Management Information System (HMIS) Integration Strategies and Solutions”, *US Department of HUD*, September 10, 2003

What level of data will be collected regionally?

The first major question to answer in designing a regional collection of data is determining what the region wants to know. This will affect which data should be collected and at what level of granularity. The choice here is a balance between choosing to collect data on an individual client level versus collecting only aggregate data. The easiest technical solution of course is to gather only aggregate data at the regional level. However, such an approach would result in a system of marginal use in understanding the dynamics of the homeless population. While it is not important to know the identity of a specific homeless client on the regional level, it is important to know general characteristics on each client being served in order to truly understand the dynamics across the entire population. Unfortunately this level of detail is lost once data is aggregated. The key therefore is to collect information on individual clients and services, while maintains the required confidentiality which ensures that no individual can be identified in the system. Approaches for maintaining this individual confidentiality are discussed later in this document.

Which Data Elements should be collected regionally?

Based on where the individual counties are with their respective implementations, it is impossible to determine at this time the exact data elements that will be collected in the regional system. CTA recommends that the regional system should start with a core set of elements based on a subset of the HUD data standard (possibly just the universal data elements), and expand to include more of the optional program level elements over time. Due consideration needs to be taken at this point on the need to be able to identify the chronic homeless.

*Federal register: HUD data elements
September 2003. Universal (required) data elements*

<i>Data Standards</i>	<i>Subjects</i>	<i>Protected personal information</i>	<i>Data entry or Computer generated</i>
<i>Name</i>	<i>Adults and children</i>	<i>Protected</i>	<i>Data entry</i>
<i>SSN</i>	<i>Adults and children</i>	<i>Protected</i>	<i>Data entry</i>
<i>Date of birth</i>	<i>Adults and children</i>	<i>Protected</i>	<i>Data entry</i>
<i>Ethnicity and race</i>	<i>Adults and children</i>		<i>Data entry</i>
<i>Gender</i>	<i>Adults and children</i>		<i>Data entry</i>
<i>Veteran status</i>	<i>Adults</i>		<i>Data entry</i>
<i>Residence prior to program entry</i>	<i>Adults and children</i>		<i>Data entry</i>
<i>Zip code of last permanent address</i>	<i>Adults and children</i>	<i>Protected</i>	<i>Data entry</i>
<i>Month and year left last permanent address</i>	<i>Adults and children</i>		<i>Data entry</i>
<i>Program entry date</i>	<i>Adults and children</i>	<i>Protected</i>	<i>Data entry</i>
<i>Program exit date</i>	<i>Adults and children</i>	<i>Protected</i>	<i>Data entry</i>
<i>Unique personal ID number</i>	<i>Adults and children</i>	<i>Protected</i>	<i>Computer-generated</i>
<i>Program ID number</i>	<i>Adults and children</i>	<i>Protected</i>	<i>Computer-generated</i>
<i>Program event number</i>	<i>Adults and children</i>		<i>Computer-generated</i>
<i>Household ID number</i>	<i>Adults and children</i>		<i>Computer-generated</i>

Two factors will determine how quickly the number of data elements in the regional system will

expand. First, the general maturity of the regional system will dictate how much data should be collected. It would be impractical and infeasible to collect a large number of data elements from the very beginning due both to the uncertainty in the quality of the data and the lack of developed transformation processes necessary to accommodate the multiple county systems. These processes need to be worked out for the key data elements initially before additional data elements are also included.

The second reason to slowly increase the level and amount of data elements collected by the system is that the amount of data available from each county will also vary over time. Data should only be included in the regional database after a sufficient number of counties have established processes to accurately collect the data on a local level. It is important that common collection methodologies are used for such things as identifying the chronically homeless. As counties expand the amount of data that is stored in their local HMIS systems, the regional system will be able to expand the amount of data collected regionally.

*Federal register: HUD data elements
September 2003
Summary of program-level data elements
(Not required)*

<i>Data standards</i>	<i>Subjects</i>	<i>Required for APR?</i>	<i>Data entry or Computer generated</i>
<i>Income and sources</i>	<i>Adults and children</i>	<i>Yes</i>	<i>Data entry</i>
<i>Non-cash benefits</i>	<i>Adults and children</i>	<i>Yes</i>	<i>Data entry</i>
<i>Physical disability</i>	<i>Adults and children</i>	<i>Yes</i>	<i>Data entry</i>
<i>Developmental disability</i>	<i>Adults and children</i>	<i>Yes</i>	<i>Data entry</i>
<i>General health status</i>	<i>Adults and children</i>	<i>No</i>	<i>Data entry</i>
<i>Pregnancy status</i>	<i>All adult females</i>	<i>No</i>	<i>Data entry</i>
<i>HIV/AIDS status</i>	<i>Adults</i>	<i>Yes</i>	<i>Data entry</i>
<i>Behavioral health status</i>	<i>Adults</i>	<i>Yes</i>	<i>Data entry</i>
<i>Domestic violence</i>	<i>Adults</i>	<i>Yes</i>	<i>Data entry</i>
<i>Education</i>	<i>Adults</i>	<i>No</i>	<i>Data entry</i>
<i>Employment</i>	<i>Adults</i>	<i>Yes</i>	<i>Data entry</i>
<i>Veterans</i>	<i>Adults</i>	<i>No</i>	<i>Data entry</i>
<i>Services received</i>	<i>Adults and children</i>	<i>Yes</i>	<i>Data entry</i>
<i>Destination</i>	<i>Adults and children</i>	<i>Yes</i>	<i>Data entry</i>
<i>Follow-up after program exit</i>	<i>Adults and children</i>	<i>Yes</i>	<i>Data entry</i>
<i>Children's education</i>	<i>Children</i>	<i>No</i>	<i>Data entry</i>
<i>Other children's questions</i>	<i>Children</i>	<i>No</i>	<i>Data entry</i>

How will duplicate clients be matched across systems?

Critical to the success of a regional database will be the ability to identify duplicate clients across the multiple county systems. Without this capability it would be almost impossible to study the

dynamics of the homeless population across county boundaries. Care needs to be shown in the design of the regional system in order to insure a mechanism for matching clients across multiple systems, while still maintaining client confidentiality.

Initially it was hoped that if two systems adopted a similar mechanism for generating unique client identifiers, that the identifier itself could be used to match duplicate clients. This belief was based on an underlying assumption that client identifiers would be generated through a known algorithm using a composite of the client's identifying information. The recent publication of the HUD standard however revealed a flaw in this assumption. As per the standard, a client identifier must be randomly generated in such a way as to prevent the ability to map the identifier back to the original client. Duplicate clients in the same county system will have the same client identifier. But two different systems, even if they are implemented with the same software, will most likely generate different identifiers for the same client. Unless HUD relents or changes its' standard relating to the random generation of client identifiers, an alternative approach will have to be found.

Since the existing client identifiers cannot be used to match duplicates, a new process must be created by which clients from separate systems are mapped into a new client identifier scheme, implemented specifically for the regional system. In essence, at a regional level we need to develop a new mapping whereby duplicate clients from two systems are matched and entered into the regional system under a new common identifier.

To accomplish this mapping, two alternatives have been investigated. Either, (1), client identifying data is extracted from the source HMIS systems and processed to create a mapping to the new regional HMIS client identifiers, or (2) a standard algorithm is developed whereby the client identifying data in a county level HMIS system is used to calculate a new regional client identifier prior to or during the extraction process. The tradeoff between the two processes lies in a choice between extracting client identifier information from the source systems and processing data centrally, versus preprocessing the data locally, early in the extraction process. The first alternative is probably the easiest to implement, but the second alternative better protects client level confidentiality.

With either approach it is important to recognize that no matching scheme is perfect and there will always be an element of error involved. If we rely solely on exact match for name, social security number and date of birth, very few duplicate clients will be found. Instead a formula needs to be developed which will identify duplicate clients even when there is incomplete data available. Such an algorithm will not be 100% successful, but should significantly increase the probability of finding a match when they do exist. The actual formula will be developed later through experimentation with live data gathered from some of the local HMIS systems.

How can client confidentiality be maintained in the Regional Database?

Policies and procedures will need to be implemented in order to ensure the protection of client confidentiality in the regional database. These policies will be based on some core principles that govern how client-identifying data is handled and stored. The following is the current thinking of what some of these principles could be for the regional database.

The regional database will not contain any information which is capable of identifying a client. Any information which is capable of identifying a client will not be stored in the regional database. This will include any data which has been identified as “protected personal information” in the emerging HUD data standard, such as name, social security number, date of birth, etc. In effect, the resulting regional database will contain only “de-identified” information, as defined in the emerging HUD data standard. This capability enables the regional data to be analyzed as a whole, without jeopardizing client confidentiality and the security policies of the local systems.

There will be no supported means to “re-identify” a client using the data stored in the regional database.

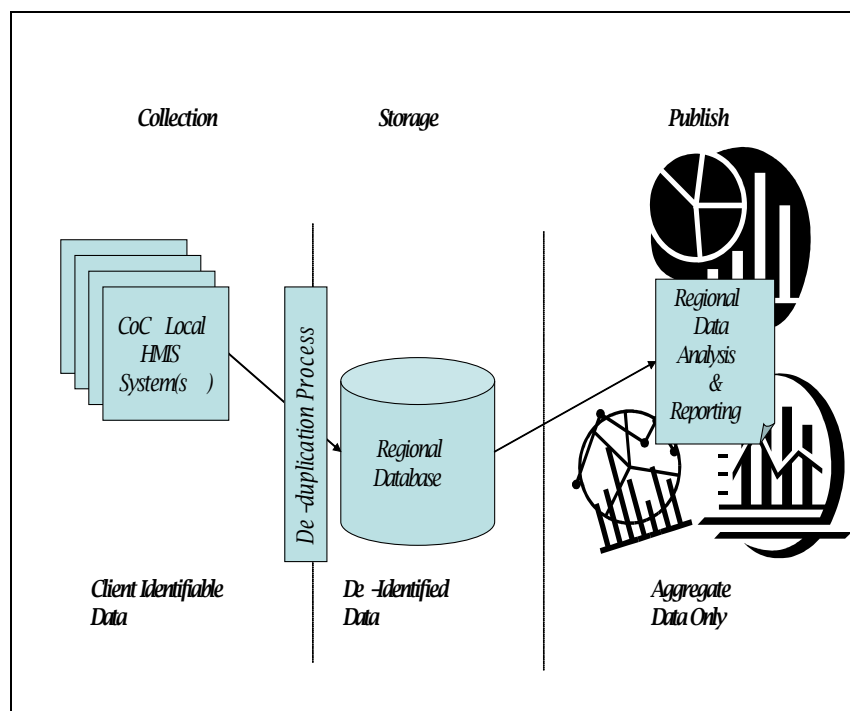
All client data will appear anonymously in the system. Any request for information from the regional system which requires a client identity will be directed back to the local HMIS systems to deal with as appropriate with the local policies and procedures for security and confidentiality.

All information published using the regional database will be done so on an aggregate basis as to make it impossible to deduce individual client identities.

While removing client-identifying data from the system relieves the system of specific client confidentiality issues, it does not remove all possibilities where by an individual could be identified in the data by someone with some knowledge of the individual. The only way to prevent this further abuse of the system is to restrict publication of the data to a granularity that would render such “re-identification” virtually impossible.

For example if a small agency within a county services a very small number of clients, it would be inappropriate to publish on a per agency basis, information pertaining to, lets say, the number of male HIV positive clients.

With such a limited client base, anyone who is knowledgeable of the agency could potentially identify the specific client from the information. However, if taken at a regional level, a percentage of all male clients who are also HIV positive would not jeopardize the identity of any specific male client. (HIV status is used in this example, not to suggest that such information will or will not be included in the regional system, but to highlight the sensitivity of the potential information that



could be reported.)

Section 4: Implementation Steps

Where are we in the Planning Process?

To jumpstart the creation of a Regional HMIS Data system, the Charles and Helen Schwab Foundation enlisted CTA's services, as part of an overall regional planning grant, to define an initial framework for the overall system. Short of being a full implementation plan, the framework provides definition of the direction to be pursued and identification of the key design parameters on the system. This document is the results of this initial work.

While considerable groundwork has been laid, the overall planning process is not yet completed and requires additional work. There are three key prerequisites that must be addressed before the planning for a regional system can be completed and the first pilot implementation started. The first prerequisite is that the continuums in the region must finish their local HMIS implementations in preparation for meeting a HUD target date of October 2004. Without preexisting local HMIS systems, it is impossible to finalize design decisions on the breadth and quality of data that would be available regionally. In addition, the second prerequisite for completing a design and implementation plan centers around uncertainty with the emerging HUD data standard. The draft standard issued in July 2003 called into question some initial assumptions underlying how duplicate clients will be identified on a regional basis. Before any plans could be finalized, additional guidance from HUD will be required in the form of a finalized data standard. More detail information on the continuum-level plans follows. The third prerequisite is that agreement needs to be reached on what it is the region wants to know about the homeless population at a regional level. This will determine what data is to be collected at a regional level.

Continuum-Level HMIS Implementation Plans

A prerequisite of course for Regional HMIS Data is the existence of local county HMIS systems with real data. Across the region various approaches are being taken to meet the standard. Some of the continuums in the region are in the process of implementing a new HMIS system while others are looking to upgrade existing systems to become compliant with the HUD standard. HUD has set October 2004 as a deadline for Continuum of Cares to implement a HUD compliant system.

Five of the BACHIC counties (Santa Clara, Santa Cruz, Monterey, Contra Costa and Alameda) have chosen to implement the ServicePoint application from Bowman Internet Systems as their local HMIS system. Santa Clara County has already begun their implementation, while the others are in discussions to join together for a common, shared regional system amongst themselves.

The City and County of San Francisco selected a different software vendor, Metsys, for their application system. The City has already implemented the system to manage bed reservations in the main city homeless shelters and is currently in the process of expanding usage to additional programs and other non-government agencies.

The remaining 5 BACHIC counties (San Mateo, Marin, Napa, Sonoma, and Solano) are pursuing, at least for the near-term, strategies of modifying existing systems within their continuums. San Mateo is working with Deloitte-Touche to extend an existing system in the county to now collect information on homelessness. The four northern counties (Marin, Napa, Sonoma, and Solano) are upgrading their preexisting manual, paper-based collection systems as a short-term measure to become compliant with the Congressional direction. Several of these counties are also currently monitoring progress on the shared, regional HMIS system as a potential future platform for their needs.

The following table summarizes the different approaches being taken by each county.

<i>County</i>	<i>Software</i>	<i>Hosting</i>
<i>Alameda</i>	<i>ServicePoint</i>	<i>Potential Shared Regional System</i>
<i>Contra Costa</i>	<i>ServicePoint</i>	<i>Potential Shared Regional System</i>
<i>Marin</i>	<i>CIAP*</i>	<i>Coalition Hosted System</i>
<i>Monterey</i>	<i>ServicePoint</i>	<i>Potential Shared Regional System</i>
<i>Napa</i>	<i>*</i>	<i>Coalition Hosted System</i>
<i>San Francisco</i>	<i>Metsys</i>	<i>City Hosted</i>
<i>San Mateo</i>	<i>*</i>	<i>County Hosted</i>
<i>Santa Clara</i>	<i>ServicePoint</i>	<i>Hosted SCC System</i>
<i>Santa Cruz</i>	<i>ServicePoint</i>	<i>Potential Shared Regional System</i>
<i>Solano</i>	<i>*</i>	<i>Coalition Hosted System</i>
<i>Sonoma</i>	<i>*</i>	<i>Coalition Hosted System</i>

* Denotes local developed system.

Implementation Timeframe and Next Steps

Based upon current county-level plans it is unlikely that a sufficient number of counties will be up and running with active data before at least April, 2004. It is CTA's recommendation that the planning phase of this initiative continue for the first half of 2004 as part of the overall responsibilities of a Regional Project Manager position. Toward the end of 2004 timeframe, CTA then recommends that an additional Regional Data Analysis resource be brought on board

to finalize some of the detail technical design and initiate the first pilot implementation of the regional HMIS database using a subset (those that are ready) of the overall counties in the region.

During the 2004 planning and implementation phase a number of steps need to be agreed:

- *What:*

Agree overall concept of a Data Warehouse Approach.

How:

Presentation of proposal by CTA and discussion and agreement of all members at BACHIC meeting in January 2004.

- *What:*

Agree as a region, what it is that the region would like to know about the characteristics of the target population. It is important to decide what the region wants to know in order to set the parameters for which data to collect regionally.

How:

Discussion at the BACHIC meeting in January 2004 and production of a “Regional Vision” (Draft to be prepared by Regional Project Manager) at BACHIC meeting in February 2004.

- *What:*

Agree what data will be collected regionally.

How:

Regional Project Manager will consider existing individual county plans and assess common elements then meet with all county coordinators for discussions about their data collection taking due account of needs in identifying chronic homelessness. This will be followed by presentation of proposed data collection fields by Regional Project Manager and discussion and agreement at BACHIC meeting in April 2004.

- *What:*

Agree unique identifier to be used across the region.

How:

Drawing on HUD’s data standards the Regional Project Manager will assess the various methods for generation of unique identifiers by each county and assess the most effective and efficient methods for matching clients across the multiple systems in use in the region. Presentation of options on the generation of unique identifiers to be used regionally to be made to the BACHIC

meeting in June 2004.

- *What:*

Agree a 'protocol' for what will be done with statistics and information generated by the central data warehouse, access to data, format in which data will be presented, methodology for data analysis and any veto power for release of information.

How:

Discussion and agreement at the BACHIC meeting in April 2004 and approval of 'protocol' or Memorandum of Understanding drafted by the Regional Project Manager at June 2004 BACHIC meeting.

- *What:*

Agree confidentiality 'protocol' on transferring data to Regional Data Warehouse.

How:

Initial discussions with individual counties by Regional Project Manager and preparation of draft 'protocol' or Memorandum of Understanding for discussion and agreement at BACHIC meeting in June 2004.

- *What:*

Agree mechanism and timeframe for regular transfer of data to Regional Data Warehouse.

How:

Regional Project Manager to enter into discussions with individual counties on entry level access and data format and prepare Regional Memorandum of Understanding for each county signature on format and timeframe for regular data entry. Memorandum of Understanding to be agreed at August 2004 BACHIC meeting and signed by all parties by September 30, 2004. (This should not preclude counties transferring data earlier than September 30, 2004 if they are ready to so do).

- *What:*

Consider and agree responsibility for analyzing regional data.

How:

BACHIC meetings in August and October 2004 to discuss funding for a Regional Data Analyst.

Appendix D. BACHIC and RHINO Project Planning and Decision Document

#	Type	Action	Deliverable	Decision Maker	Responsible Party	Due Date	Status	Comments
1	Policy	Invest interest among BACHIC counties	Agree on collection of regional data	BACHIC	CTA	Jan-06	Closed	Completed February 2006
2	Policy	Identify participating counties	Agreement on which counties will participate	CoC	BACHIC	Apr-06	Closed	Complete April 2006
3	Policy	Develop overall concept	Understanding of how project will develop	BACHIC	CTA	Jan-06	Closed	Basic concept agreed
4	Policy	Develop overall Regional Vision	Understanding of why project is needed	BACHIC	BACHIC	Jan-06	Closed	Agreement on Vision reached April 2006
5	Policy	Develop Project name and logo	Identification and Outreach	BACHIC	BACHIC	Jan-06	Closed	Agreement reached February 2006
6	Policy	Secure initial funding for warehouse	Funding required to build warehouse	N/A	CTA	Jan-06	Closed	Contract signed September 2006
7	Policy	Secure stipends for each county	Funding to allow local System Administrators to format data for export	HUD	CTA	Oct-06	Closed	Completed September 2006
8	Policy	Agree on distribution of county stipends	Fairness in distribution of funds	BACHIC	BACHIC	Oct-06	Closed	Agreed September 2006
9	Policy	Identify what BACHIC wants to know	To answer regional homelessness questions and address the Vision	BACHIC	BACHIC	Jun-06	Closed	Vision agreed April 2006. Data elements agreed August 2006
10	Policy	Consider data ownership issues	Control of Data Release	BACHIC	BACHIC	Mar-06	Closed	Agreement that data owned by each CoC
11	Policy	Consider phased loading of data by counties	Readiness of CoCs to submit data	BACHIC	CTA	Aug-06	Closed	Agreed
12	Policy	Agree loading timeframe for each county	Readiness of individual CoCs	BACHIC	BACHIC w/ CTA	Aug-06	Closed	Agreed

13	Policy	Develop formal Agreements between BACHIC counties	Documented buy-in to collaborate	BACHIC	BACHIC	Oct-06	Closed	Guiding Principles agreed Nov 06 subject to any future amendments
14	Policy	Develop participation “protocols” between participating counties.	Single BACHIC participation agreement	BACHIC	BACHIC	Dec-06	Closed	Guiding Principles agreed Nov 06 subject to any future amendments
15	Policy	Timeframe for distribution of county stipends	When should stipend be provided?	BACHIC	CTA	Dec-06	Closed	Agreed Nov 06. Payment on receipt of first data load by county
16	Policy	Consider Personally identifiable information and confidentiality issues	Protocols to protect client confidentiality	BACHIC	BACHIC w/ CTA	Dec-06	Closed	Agreed Nov 06 CTA to produce document setting out Regional Unique Identifier and Security and Confidentiality measures in place by Feb 07
17	Policy	Confirm transmission of data security issues acceptable	CoCs comfortable with transmission of data to warehouse	BACHIC	CTA	Oct-06	Closed	Agreed Nov 06 CTA to produce paper by Feb 2007
18	Policy	<u>Confirm</u> Universal and Program level data elements to be submitted	Specific list of data elements to be submitted	BACHIC	CTA	Oct-06	Closed	Confirmed. Minutes recall decisions made.
19	Policy	Consider whether separate policies and protocols needed for every decision	Written agreements or procedures for every decision/action	BACHIC	BACHIC	Nov-06	Closed	Agreed this not necessary. Decision Log will be produced.
20	Policy	Develop protocol for editing or deleting data once entered	Develop a standard leading to a consistent approach	BACHIC	BACHIC	Feb-07	Open	Agreed to 7 year deletion rule. For further discussion Mar 2007.
21	Policy	Develop protocol for removal of data once entered	Consistent approach leading to Best Practice across CoCs	BACHIC	BACHIC	Feb-07	Open	Agreed to 7 year deletion rule. For further discussion Mar 2007.

22	Policy	Agree data dump regularity	Set a schedule to ensure timely forwarding of data to warehouse.	BACHIC	CTA	Feb-07	Closed	Agreement of every 3 months, after initial dump, for 2007. Monthly data dumps starting Jan 08.
23	Policy	Consider Reporting out of RHINO issues	Policy implications for each CoC	BACHIC	BACHIC	Dec-07	Open	Preliminary discussions started Nov 06 - On-going discussions throughout 2007
24	Policy	What reports would be generated	Regional picture	BACHIC	BACHIC	Dec-07	Open	Initial discussions to start Feb 07 - On-going discussions throughout 2007
25	Policy	What format will reports take	Format	BACHIC	CTA	Dec-07	Open	Initial discussions to start Feb 07 - On-going discussions throughout 2007
26	Policy	How will analysis of data be conducted	Policy implications for each CoC	BACHIC	To Be Determined	Dec-07	Open	Decision needed by Dec 2007
27	Policy	Who will analyze data	Expertise	BACHIC	To Be Determined	Dec-07	Open	Decision needed by Dec 2007
28	Policy	Protocol for agreeing distribution and release of reports	Consistent approach	BACHIC	BACHIC	Dec-07	Open	On-going discussions throughout 2007
29	Policy	Consider legal obligation for sharing data with general public	Protocol for responding to general public requests for RHINO data	BACHIC	BACHIC	Aug-07	Open	On-going discussions throughout 2007
30	Policy	Consider funding for data analysis	On-going need for analysis	BACHIC	BACHIC	Dec-07	Open	Decision needed by Dec 2007
31	Policy	Consider "data sharing" options	Regional data available to all CoCs	BACHIC	BACHIC	Dec-07	Open	Only if BACHIC wishes to consider this
32	Policy / Technical	Consider Regional Unique Identifier issues	De-duplication of clients	CTA w/ BACHIC	CTA	Oct-06	Closed	Agreement reached Feb 07. Slight changes to RUID specification to be reviewed Jul 12, 2007.

33	Policy / Technical	Consider Hashing levels for RUI	Security and Confidentiality of data	BACHIC	CTA	Dec-06	Closed	Agreement reached Feb 07.
34	Technical	Identify data elements required in order to answer “what BACHIC wants to know”.	Consistent data to guide schema and data modeling	BACHIC	CTA	Aug-06	Closed	All data elements agreed August 2006. See RHINO CSV Spec.
35	Technical	Develop exporting format	Consistent export and import of data	CTA w/ BACHIC	CTA	Oct-06	Closed	Agreement Feb 07 on CSV with consideration of XML at future date
36	Technical	Agree encryption process	Confidentiality and Security of Data in Transmission	CTA	CTA	Dec-06	Closed	Agreed Nov 2006 to use SSH2. See Confidentiality and Security document.
37	Technical	Investigate software applications in use by each county	Help in developing export format	N/A	CTA	On-going	Closed	Agreement on CSV Spec. Feb 07
38	Technical	Consider data integration issues	Develop format	CTA	CTA	On-going	Closed	Agreement on CSV Spec. Feb 07
39	Technical	Develop allowable values for each element	Domain integrity Data Dictionary	CTA	CTA	Feb-07	Closed	Agreement on CSV Spec. Feb 07
40	Technical	Design data shells	File format	CTA	CTA	Feb-07	Closed	Agreement on CSV Spec. Feb 07
41	Technical	Test load data from one Continuum	Best practice for later CoCs submissions	CTA	CTA	Jan-07	Open	Data exported. Initial test loading in process
42	Technical	Develop data cleaning and validation procedures	Data Quality Exception Reports	BACHIC w/ CTA	CoC w/ CTA	Dec-07	Open	CSV Export Guidelines and Santa Clara Exception report drafts completed. To be reviewed Jul 12 BACHIC meeting
43	Technical	Instigate Unique Identifier protocol	Consistent approach across counties leading to Best Practice	CTA w/ BACHIC	CTA	Feb-07	Closed	RUID agreed Feb 07
44	Technical	Develop schema	Dimensional model for building warehouse	CTA	CTA	Jan-07	Closed	Completed Feb 07

4 5	Technical	Protocol for transferring data from local Continuums to RHINO	Consistent approach leading to Best Practice	CTA w/ BACHIC	CTA w/ BACHIC	Feb-07	Closed	Confidentiality and Security Document, agreed Feb 07
4 6	Technical	Protocol for dealing with exceptions	Quality Data Exception Reports	CTA	CTA	Feb-07	Open	CSV Export Guidelines and Santa Clara Exception report drafts completed. To be reviewed Jul 12 BACHIC meeting
4 7	Technical	Evaluation milestones	CoC review of process	N/A	CTA	Nov-07	Open	