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Request for Proposals: RFP 04-01

Mendocino SHARE Project

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1.0 Executive Summary

The purpose of this document is to invite proposals to implement an Internet based secure Health Records Exchange (HRE) system for participating practitioners and clinics in Mendocino and Lake Counties, California. The project to implement the HRE is called **Mendocino SHARE (Securing Health Access and Records Exchange).** SHARE is a three year project, funded by the federal Health Resource Services Administration (HRSA) through their Healthy Community Access Program (HCAP) initiative. The first year is a proof of concept deployment of an HRE focused on our diabetic patient population. The Lead Agency in the SHARE Project is Alliance for Rural Community Health (ARCH) a consortium of community health clinics in Mendocino County. The successful Bidder to this RFP will supply project consulting, application development, system integration, hardware development, documentation, and training to satisfy the project requirements.

Time is of the Essence

HCAP funding for the project was granted late in the Federal year in October 2003. The first year funding needs to be spent by 31 August. Although we are requesting guidance on carryover of unspent balances, we are operating under the assumption that we must use or lose year-one funding. In other words the delivery timeline for the HRE and its ancillary hardware and software requirements specifies a feature complete installation including user training, before the end of August 2004.

SHARE Financial Sustainability and Technical Solution Selection

Initial funding for SHARE is from an HCAP 3-year grant. Beyond year 3 operation expenses will be borne by the participants. SHARE functionality will need to be compelling and affordable after HCAP funding expires. Substantial licensing and maintenance costs will be prohibitive and unsustainable for the participants, who are already on limited budgets.

We are inviting developers of Commercial (proprietary) and Open Source solutions to participate in SHARE. These products exist in various forms and levels of maturity. The selected vendor and solution will be the one we deem most appropriate for our participating members as judged on the basis of longer term operation and function, be it Open Source or licensed Commercial Product. Vendors are asked to discuss the costs and benefits of both “build vs. buy” and sustainability in their proposal section on Sustaining Operations.

Development Approach and Methodology

Development activity will use an evolutionary Rapid Prototyping approach for iterative development of requirements specifications and hands on demonstration of requirements. The developing prototype must evolve into a finished product. Tools used for prototype development (ie. JBoss, “Eclipse” or other IDE tools) should be readily available and affordable (for reasons of sustainability, open source solutions are preferred). Specification or Design Language should be industry accepted, such as UML or Use Case scenarios. The elements of evolutionary Rapid Prototyping desired in this development are described later in this RFP.

Other Development Activity

SHARE is an initial implementation of an HRE solution. ARCH is seeking other grants and collaborators to add further health care functionality to the SHARE project or to integrate the SHARE project with other clinic based workflow solutions. The overall goal of this ancillary development activity is to both augment the clinic functionality and business process value of the SHARE project and ultimately to improve health outcomes for the target population of Mendocino and Lake Counties.

2.0 Background Information

2.1 Background Summary

The **Mendocino SHARE (Securing Health Access and Records Exchange) Project** (the Project) will improve the health outcomes and reduce the costs associated with caring for uninsured and underinsured chronic disease patients accessing multiple sites through increased programmatic collaboration and the implementation of a virtual case management system. SHARE is a three-year project. During Year-one of the Project period, work will focus and refine efforts to specifically reduce costs and improve the quality of care for our diabetic patient population. This will be accomplished through the development of a Health Records Exchange (HRE) system that can produce an unduplicated Master Patient Index across our vertical network of consortium members.

The Mendocino SHARE Project county-wide consortium is comprised of thirteen members; including four Federally Qualified Health Centers (FQHC) sites, one FQHC look-alike, one Rural Health Center, one Indian Health Service clinic, three hospitals, one non-profit community clinic consortium organization, and the Mendocino County Departments of Public Health and Social Services. The lead on this project, Alliance for Rural Community Health (ARCH), a 501(c)(3) non-profit organization, is a community clinic consortium that includes six community health center members (all of whom are individual organizational members of the SHARE Project).

The service area of the Mendocino SHARE Project includes all of Mendocino County and portions of Lake County services by clinic sites in Lakeport and Potter Valley. Our focus is an initial target population consisting of 32,411 low-income individuals living under 200% of the Federal Poverty Level. Mendocino County is a severely economically depressed area. Issues of poverty, low paying jobs, lack of education and geographic isolation with minimal or no public transportation impact all our target population. Forty eight percent of this target population is uninsured, and thus their ability to access health care is considerably compromised. The most significant health risk faced by our target population is the increasing prevalence of chronic disease. The people of Mendocino County suffer significantly higher death rates from cancers, stroke, diabetes, and asthma than does the State of California at large.

2.2 Purpose of this RFP

The purpose of this document is to invite proposals to implement an Internet based secure Health Records Exchange (HRE) system for participating practitioners and clinics in Mendocino and Lake Counties, California. The RFP specifies consulting, application development, integration, hardware, documentation, and training services to satisfy the project requirements.

2.3 Operating Environment

The Mendocino SHARE Project members are separate competing clinical entities or county government departments. To provide effective management to the project, three operating committees are chartered to meet at least monthly.

Administrative Committee features Executive Directors (or their designees) from each member.

Program Committee features clinical Providers, Records or Operations personnel from each member.

Technical Committee features CIOs, system engineers or other technical staff from each member.

In addition to these committees, the Project has a full time Project Coordinator working out of the ARCH office to keep all stakeholders informed of tasks, milestones and progress.

2.4 Statement of the Problem

Mendocino County shares the problems of most health care markets in the U.S.: health care is delivered by mostly unconnected providers including clinics, hospitals, laboratories, pharmacies and numerous individual practitioners. Health care consumers visit some or all of these providers. Since patient data and records are not easily shared, patient care is fragmented, inefficient and inconsistent. SHARE is intended to provide tools and information to the practitioners so continuity of care can be improved and based on more complete history and knowledge.

The following story illustrates the nature of the different provider problems in coordinating effective patient care.

> The Patient is a non-English speaking woman who lives in a remote rural area, about 1 hour from a member clinic. She has transportation barriers which make frequent medical visits difficult. She has been seen by multiple providers in the recent past. In addition to uncontrolled DM (Diabetes mellitus), she suffers from post partum depression. She has recently pulled one of her children out of high school. The patient stated this is because she has diabetes, and needs the daughter at home to take care of her and the other children.
>
> She had come to the clinic for a single visit over a year ago. The chart had little information beyond the initial diagnosis and the basic vital signs. Lab tests were ordered at that visit, but there was no evidence that the patient had them done. There is no information from other

healthcare providers. She was hoping to see one of the providers whom she had seen in a previous visit. However, she did not arrive at the scheduled time and had to be worked into another provider's appointment schedule. A random blood glucose test was over 300. She stated that she had lab work recently, was told "by someone" that the results "were fine." No record of lab results was available at the clinic. She was unable to name her current medications. She was asked where she fills her prescriptions, and she named two pharmacies. Calls to the pharmacies produced names of several different diabetes meds prescribed by different providers. Because of the lack of information, the only thing accomplished at this visit was a reorder of one medication. She canceled her next appointment, was a no show for the third, but was eventually rescheduled and seen for follow-up. No lab work had been received as of the time of that appointment.

3.0 Scope and Objectives

3.1 Scope Overview

The primary objective of this three-year project is to improve patient health outcomes. This is to be accomplished though use of consistent protocols among members, development of a Health Records Exchange (HRE) system and expansion of electronic health record (EHR) capacity.

The HRE will match a unique patient identifier to every single unduplicated patient accessing care at any of our member sites. In year-one, the HRE will form the basis for a virtual case management solution for our chronic disease patients whereby clinicians and providers will have instant access to select, secure patient information. In years two and three, the HRE will enable the development and increase the effectiveness of Electronic Health Record systems to be implemented at each of the consortium sites across the network and will seek to expand the HRE to include local pharmacy, lab and radiology facilities. The Health Record Exchange project is creative, feasible, easily replicable throughout the state, and can reduce disparities and improve health outcomes for our low-income patient population.

Presently, each of our health center members use and employ electronic diabetes registries (typically CV-DEMS or PECS programs supplied by the Bureau of Primary Health Care, BPHC) and patient records that are specific to their own organizations. In the initial phase, the Health Records Exchange program of the SHARE Project will expand and link this existing system among the seven clinical sites in our consortium, with the exception of the hospitals. (These hospitals are currently in the midst of major software system implementations that limit their ability to participate in a technology project during year-one.) Hospitals participation is scheduled for year-two and –three. Armed with access to this data, diabetes case managers in the consortium will be able to more accurately assess gaps in service, pinpoint problems with patient flow and access to care, and target clinical and supportive care to those in need.

A primary focus of the Mendocino SHARE Project is to integrate and coordinate care for chronic disease patients.

The most significant integration will be the development of the Master Patient Index (MPI) for the Health Records Exchange (HRE.) The ability to track patient-specific information

throughout the network, effectively and efficiently, will enable the integration and coordination of patient care. For the most part our patients do not have the ability to act as their own case managers and to accurately recount the care they've received at multiple health center sites. With the HRE's unduplicated Master Patient Index feature, we no longer have to practice medicine in a vacuum.

3.2 Statement of Work (SOW)

The Vendor shall propose a solution to satisfy the statement of work contained in the following Tasks:

Task One: Management Plans

Activities

Develop Project Plan, Software Management Plan and Sustaining Operation Plan. Report Status

Documentation Requirements:

T1-d1 Project Plan – defines the project approach, the principals/stakeholders, responsibilities, communication procedures, activities, deliverables and the project schedule. The Project Plan will be co-developed by ARCH and the Vendor.

T1-d2 Software Management Plan – defines the development methodology, environment, standards/guidelines and version controls for software engineering development. The plan will also describe the development, test and operational environments and controls necessary to simultaneously develop and deliver SHARE services.

T1-d3 Sustaining Operation Plan – defines the procedures and processes for the on-going control, operations and maintenance of SHARE for years two through seven. The Sustaining Operation Plan will be co-developed by ARCH and the Vendor.

T1-d4 Status Reporting – Provide weekly and Monthly progress reporting against financial and technical objectives set in the contract and Management Plan.

Task Two: Master Patient Index (MPI)

Activities:

Define (in conjunction with the SHARE Program and Technical Committees) Access and Security for:

- Levels of access (system, site, practitioner/user and record-) requirements and security authorities, rules and restrictions, and the relationships to classes of users
- Functional classes of users and capabilities of each, and each class's access requirements and security authorities, rules and restrictions
- Classes of records, file formats, data archetypes, field level security and access controls and location of records.

- Data access logging and reporting

Develop web server hosting hardware and software recommendations, including development platforms allowing simultaneous development, testing and production environments.

Develop an initial Requirement Specification (RS) for the prototype that defines the Task functional requirements for the initial prototype implementation and demonstration. The initial RS will evolve into the As-Built Specification.

Develop a Prototype Plan for the Task. The Prototype Plan will describe the expected evolutionary prototype iterations from initial to final and the generally expected incremental capability delivered in each subsequent iteration.

Develop an initial prototype implementation and iterate the prototype to completion. Each iteration will generate the detail requirements for the next iteration.

Functionality Requirements

T2-f1 Provide a central web server hosting solution (recommendation for hardware purchase)

T2-f2 Provide a central web server application solution to host the core MPI services and data.

T2-f3 Provide a unified set of services to create and maintain a master patient index from the patient data at the different subscribing medical providers. At a minimum the following functionality should be provided:

Data Import – develop customized capability to "sweep" identified data to the MPI from individual client sites. Control of the data will remain with the client sites. Each client-provider site's current Records Solution and Data Communications links are listed in figure Task2-2. Patient data sweeps are to occur at the end of each business day.

Identity Correlation – identifies potential matches from closely matching persons

De-duplication support – provides support for either automatic or manual intervention to resolve multiple identities (identity "healing")

Record Location tracking – when a patient is identified or de-duplicated, define how their information is affiliated or assembled for presentation (may be a Task 3 activity)

Security rules and access implementation – develop rules and services to provide or restrict data access depending on level of access authorization and permissions.

Reporting – provide for reporting of data exceptions and duplications to administrators and participating sites.

T2-f4 Propose web caching or staging servers as needed to mediate potential bandwidth bottlenecks, or other likely solutions to maintain a rapid query response time.

T2-f5 Provide context sensitive help for any user level presentations.

Data Requirements and Volume

The known data volume for number of sites, patients, visits and the initial implementation of diabetes patients are listed below in figure Task 2-1. In 2002, Patient Encounters were numbered at 195,000 for the six initial ARCH members: 3 MCHC clinics, Anderson Valley, Long Valley, Mendocino Coast Clinic, Potter Valley and Redwood Coast Medical Services. We estimate there will be in excess of 50,000 unduplicated patients in the fully implemented SHARE system at the end of year-three.

The year-one SHARE implementation will contain diabetes patient data. Initial diabetes data is estimated at less than 100 data elements, including patient physical data and disease management data per record and less than 1,000 patient records, total. The data must be able to be entered and retrieved at a patient-visit instance, so a history is available. Planning for other chronic disease management groupings should include data for: cancer, asthma, cardiovascular and depression. Data elements must correspond to the chronic disease management specification published by the BPHC (Appendix 1).

To streamline data processing procedures, a daily update of changes will be utilized to maintain a current dataset. Daily update summaries should be logged. At the time of daily updating, defective or incomplete data should be flagged, reported to the submitting clinic, and logged.

Figure Task 2-1 Sites, Patients, Visits and Data Volume

Site ID	*Site Name*	*Number of initial diabetes records*	*Number of patient / records*	*Number of Patient Visits / yr*
ARCH	Alliance for Rural Community Health	N/A	N/A	N/A
AVHC	Anderson Valley Health Center	30	2,200	6,700
CTHP	Consolidated Tribal Health Project	unknown	5,000	unknown
LVHC	Long Valley Health Center	100	3,400	23,000
MCC	Mendocino Coast Clinics	200	4,600	24,000
MCHC	Mendocino Community Health Clinics	450	25,000	109,000
PVCHC	Potter Valley Community Health Center	50	3,400	14,000
RCMS	Redwood Coast Medical Services	80	4,400	18,000
FHMH	Frank Howard Memorial Hospital	*	*	*

MCDH	Mendocino Coast District Hospital	*	*	*
UVMC	Ukiah Valley Medical Center	*	*	*
DPH	Mendocino County Department of Public Health	*	*	*
DSS	Mendocino County Department of Social Services	*	*	*

* = not part of year-one prototype

Hardware/ Data Communication Requirements:

Hosting Server(s) for the MPI and web servers – the vendor will develop recommendations for the servers to be purchased by ARCH or to be purchased at an installed price by the vendor. The Vendor recommendation should include a review of the data communication security and the adequacy of the existing firewall/security.

Links to/from MPI and Provider sites/data stores vary; the broadband circuits for six sites (see figure Task 2-2) are managed by ARCH. Firewalls have been purchased and installed on the direct links at these six sites .The remaining seven sites are on separate external internet data circuits.

The following table lists the patient record solutions and data storage format for each site participating in SHARE. Not all sites will have initial year participation.

Figure Task 2-2 Sites, Record Solutions and Data Communications

Site ID	*Site Name*	*Current Records solution*	*Storage software*	*Data Comm to SHARE*	*Circuits in ARCH Data Center*
ARCH	Alliance for Rural Community Health	N/A	N/A	DSL	X
AVHC	Anderson Valley Health Center	CVDems to PECS 1	MS Access	Fractional T-1 @512K	X
CTHP	Consolidated Tribal Health Project	RPMS	unknown	External internet	
LVHC	Long Valley Health Center	home grown flat file	Excel	Fractional T-1 @512K	X
MCC	Mendocino Coast Clinics	PECS 1	MS Access	Fractional T-1 @512K	X
MCHC	Mendocino Community Health Clinics	PECS 2	MS-SQL	External internet	
PVCHC	Potter Valley Community Health Center	CVDems moving to PECS 1	MS Access	T-1	X

RCMS	Redwood Coast Medical Services	CVDems moving to PECS 1	MS Access	Fractional T-1 @512K	X
FHMH	Frank Howard Memorial Hospital	migrating to Cerner		External internet	
MCDH	Mendocino Coast District Hospital	09-04 move to Meditech	Proprietary query/export	External internet	
UVMC	Ukiah Valley Medical Center	migrating to Cerner		External internet	
DPH	Mendocino County Department of Public Health			External internet	
DSS	Mendicino County Department of Social Services	OASOC (and two state DBs by remote terminal)	FoxPro	External internet	

Documentation Requirements:

T2-d1 Rules tables defining:

- Classes of users and relationships, authorities, restrictions and responsibilities for each
- Levels of users and relationships, authorities, restrictions and responsibilities for each
- Classes of records/data and relationships, field level security and access controls
- Security and access controls for levels and classes and users and records/data and their relationships

T2-d2 Hardware and Communication Recommendation and Plan

T2-d3 Prototype Plan for Task

T2-d4 Initial Requirements Specification which evolves to a As-Delivered Specification

T2-d5 Test Plan and Acceptance Testing Results

Usage Scenario:

Patient record data is swept from the client sites and assembled with identity correlation performed on the MPI Servers. Identity de-duplicating services, probably performed manually based on exception reporting, identifies potential same-identities for reporting, administrative identity "healing" and query by potential users (Task 3). On an identity query, information location data is prepared for presentation (Task 3).

Task Three: Individual Patient Health Records Exchange Service

Activities:

In conjunction with the SHARE Programmatic and Technical Committees, define Access and Security:

- Levels of access (system, site, practitioner/user, record) requirements and security authorities, rules and restrictions, and the relationships to classes of users
- Classes of users and capabilities of each, and each class's access requirements and security authorities, rules and restrictions (see figure Task 3-1)
- Classes of records, file formats, data archetypes, field level security and access controls and location of records.
  Records formats must address BPHC Chronic Disease measures (Appendix 1), eGov HHS Automated Exchange of Data, HL7, and AAFP's Continuity of Care Record (CCR), all referenced in Appendix 2.
- Data access logging and reporting

Develop initial requirements for the MPI Data Collection from originating sites.

Develop an initial Requirement Specification for the prototype.

Develop a Prototype Plan for the Task.

Develop an initial prototype implementation and iterate the prototype to completion.

Functionality Requirements:

T3-f1 Provide a unified set of services for an HRE to query, enter and update patient data available through the MPI. At a minimum the following functionality should be provided:

- User level security and access (authorities, rules and data logging)
- Practitioner Query / on patient
- Presentation of alternative identities for Practitioner selection
- Practitioner selection from patient identities
- Presentation of information / records to practitioner
- Practitioner data update / addition to patient record data
- Record level auditing based on views by queries

T3-f2 Provide context sensitive help for any user level presentations.

Figure Task 3-3 Year-One Levels of Access					
SHARE MEMBER	*Administrative Reports*	*Master Patient Index*	*Local Summary Data*	*Duplicate Patient Records*	*Population Summary Reports*
Alliance for Rural Community Health	X	X	X	X	X
Anderson Valley Health Center	X	X	X	X	X
Consolidated Tribal Health	X	X	X	X	X
Long Valley Health Center	X	X	X	X	X
Mendocino Coast Clinics	X	X	X	X	X
Mendocino Community Health Clinics, Inc.	X	X	X	X	X
Potter Valley Community Health Clinic	X	X	X	X	X
Redwood Coast Medical Services	X	X	X	X	X
Frank R Howard Memorial Hospital					X
Mendocino Coast District Hospital					X
Ukiah Valley Medical Center					X
Mendocino County Dept. Of Public Health					X
Mendocino County Dept. Of Social Services					X

Hardware/ Data Communication Requirements:

Data Links to/from practitioners and MPI at six sites (see figure Task 2-2) are provided by internal ARCH WAN; at server sites data links travel over the internet.

Documentation Requirements:

T3-d1 Rules tables for Site / Practitioner access defining:

- Levels of users and authorities, restrictions and responsibilities for each
- Classes of users and authorities, restrictions and responsibilities for each
- Classes of records and authorities, restrictions and responsibilities for each
- Security and access controls for levels and classes and Users and their relationships

T3-d2 Prototype Plan for the Task

T3-d3 Initial Requirements Specification which evolves to a As-Delivered Specification

T3-d4 Test Plan and Acceptance Testing Results

T3-d5 Records formats supported (BPHC Chronic Disease, eGOV HHS, AAFP CCR)

Usage Scenario

An authorized participating practitioner logs onto the SHARE site and is authenticated. She enters a patient's name and, optionally, birthdate or other patient demographic information. The MPI responds with a set of possible, ordered by likelihood, together with associated information about patient record data available. The request and result are logged for later analysis or reporting.

The practitioner then selects from the list of patients the records most likely to be her patient. The MPI server sends requests to constituent data partners for medical records on the desired patient, and displays them for the requesting practitioner. Responses are logged for later analysis.

Task Four: Population Data Analysis

Activities:

Define User level security and access (authorities, rules and data logging)

Develop an initial Requirement Specification reporting

Develop a Prototype Plan for the Task

Develop an initial prototype implementation and iterate the prototype to completion

Functionality Requirements:

T4-f1 User level security and access

T4-f2 Query capability to include:

- Ability to create, store and run ad hoc queries
- Run and/or modify and run defined queries
- Defined queries to include:
  - Public Health surveillance measures
  - CDC compliant reporting capabilities
  - DHS bioterrorism compliant reporting capabilities

T4-f3 Provide context sensitive help for any user level presentations.

Hardware/Data Communication Requirements:

No additional hardware needs are foreseen.

Documentation Requirements:

T4-d1 Prototype Plan for the Task

T4-d2 Initial Requirements Specification which evolves to a As-Delivered Specification

T4-d3 Test Plan and Acceptance Testing Results

Usage Scenario:

Authorized and authenticated personnel are able to query the MPI and constituent partner data-sets to prepare community public health and clinic level analysis of de-identified medical records. Queries and results are logged for later analysis.

Task Five: Documentation and Training

Activities

Develop documentation and training materials for developed applications.

Documentation Requirements:

T5-d1 For each level or type of User

- Quick Start Guide
- User Guide
- Context Sensitive Help within the application environment

T5-d2 Training materials for user training

Usage Scenario:

Users receive initial training on system usage. Context sensitive help is provided within the applications. FAQ results are accumulated on the internal project management portal.

3.3 Summary of Deliverables

Task 1 Management Plans

T1-d1 Project Plan

T1-d2 Software Management Plan

T1-d3 Sustaining Operation Plan

T1-d4 Status Reporting

Task 2 Master Patient Index

T2-f1 Provide a central web server hosting solution recommendation

T2-f2 Provide a central web server application solution to host the core MPI services and data.

T2-f3 Provide a unified set of services to create and maintain a master patient index

T2-f4 Propose web caching or staging servers

T2-f5 Provide context sensitive help for any user level presentations

T2-d1 Rules Tables for Access and Security

T2-d2 Hardware and Communication Recommendation and Plan

T2-d3 Prototype Plan for Task

T2-d4 Initial Requirements Specification (evolves to a As-Delivered Specification)

T2-d5 Test Plan and Acceptance Testing Results

Task 3 Individual Patient Health Records Exchange Service

T3-f1 Provide a unified set of services for an HRE

T3-f2 Provide context sensitive help for any user level presentations

T3-d1 Rules tables for HRE Site / Practitioner access and security

T3-d2 Prototype Plan for the Task

T3-d3 Initial Requirements Specification (evolves to a As-Delivered Specification)

T3-d4 Test Plan and Acceptance Testing Results

Task 4 Population Data Analysis

T4-f1 Rules Tables for user level security and access

T4-f2 Provide query capability

T2-f4 Provide context sensitive help for any user level presentations

T4-d1 Prototype Plan for the Task

T4-d2 Initial Requirements Specification (evolves to a As-Delivered Specification)

T4-d3 Test Plan and Acceptance Testing Results

Task 5 Documentation and Training

T5-d1 Quick Start Guides, User Guides and Context Sensitive Help for each type of User

T5-d2 Training materials for user training

3.4 Other Scope and Work Considerations

Open Source vs. Proprietary Licensed Software

ARCH seeks to retain all intellectual property rights, and the copyright, of any new code developed for this project. If Open Source code is developed, ARCH intends to release this material as open source product under the GNU General Public License.

Proprietary solutions may be proposed even though they may carry higher operating costs than pure open source solutions. These higher operating costs may be disadvantageous (perhaps prohibitively so) in the Sustainability Analysis. To optimize data center operations managed by ARCH, vendors are encouraged to develop solutions on a pure LAMP (Linux, Apache, MySQL, php/perl/python) server stack with J2EE open source middleware environments.

Broswer Based

The primary user interface will be an Internet browser, but will be browser independent; i.e. product displays will be effectively identical on current versions of Mozilla, Internet Explorer, and Opera, or on Windows, Macintosh and Linux desktops.

ARCH Data Center

The current ARCH data center is a co-location cabinet at the Sonic.net data center, 2260 Apollo Way, Santa Rosa, California. Fractional T-1 data circuits for 6 partners terminate in the ARCH data center (see figure Task 2-2). Currently a maximum of 12U of vertical rack space is available. If more space is needed to accommodate specified hardware, allowance must be made for increased co-location facility expense.

Development Methodology

Development will follow an evolutionary Rapid Prototyping approach. This approach uses an initial Requirements Specification to quickly develop an operable prototype containing not only look-and-feel interface capability but also operational details. The prototypes of necessity must

be developed using powerful 4th generational rapid development tools such as the open source JBoss, Eclipse or other IDE toolsets.

The overall prototype activity is contained in a Prototype Plan for the Task describing the general functionality to be achieved by the end of the task and the expected number of iterations to achieve that functionality. Each prototype iteration must be no longer than 2 weeks, ending in a prototype demonstration. The prototype demonstration has specific pre-stated objectives described briefly in that iteration's prototype plan. The results from an iteration's prototype demonstration and the planned new functionality from the Prototype Plan for the Task define the next iteration's work. The iterative phase of the prototype is complete when the Task Prototype Plan's goals are met.

The final phase of the prototyping effort is tuning for performance and re-engineering as necessary parts of the prototype for full operational functionality.

SHARE will be developed using source control and incremental builds. Each build the application will include build-scripts to check out the source software and create the executable/runnable application. The build must be repeatable from build scripts.

Summary of ARCH/SHARE Constituent Providers

The Master Patient Index we are building will be shared among the following players.

[1] Six independent Community Health Clinics. Each clinic has their own servers on site. Patient demographics will be exported from the current practice management software, which is HealthPro "legacy" at all six clinics. The six clinic data sets range in size from 2,000 to 20,000 patients.

[2] One Indian Health Service clinic. Does not have its own server, runs as a satellite from the California Rural Indian Health Board data center three hours away. Patient demographics will be exported from their RPMS software.

[3] Mendocino Coast District Hospital (MCDH), a 50 bed facility with local data systems migrating to Meditech this year.

[4] Two other hospitals, one 33 beds, the other 78 beds, both operated by Adventist Health West, with a remote data center three hours away that hosts 20 hospitals. This data center is in month 9 of an 18 month migration to Cerner.

[5] Mendocino County Department of Public Health, several small specialty clinics, with nine separate data systems that don't talk to each other. It is unknown how many DPH patient data files will contribute to the Master Patient Index.

[6] Mendocino County Department of Social Services, several clinical data systems are connected to state databases by remote terminal emulation and are disconnected from each other. A local system uses FoxPro for its data storage. It is unknown how many of DSS patient data files will contribute to the Master Patient Index.

Collaboration Environment

SHARE is constituted as a collaboration of competing, unaligned, and semi-aligned organizations, with each organization agreeing to a minimal set of requirements for interoperability but otherwise pursuing its organization's own strategic priorities. The product will reflect our respect for local communities' ability to identify and respond to challenges that they face.

Other regional collaborations (in particular, Santa Barbara, California, see Appendix 3) have implemented similar medical record sharing strategies, and their early efforts had a tendency toward structures and procedures tightly binding constituents together, strict adherence to interoperability standards, stringent requirements for data formats, and so forth. At nearly every step along the way, they determined that a loosely coupled solution was successful where a tightly coupled solution would have failed.

The SHARE product herein described will operate as a public utility that will eventually be available to all allied physicians, caregivers, and consumers for the purposes of increasing the quality and efficiency of health care delivery. During the second and third year of the project, public and private health care organizations (in addition to the seven original clinics noted above) in the service area will become involved, and will work closely together to ensure that a secure, valid, and useful data asset is available to all, and that these data are protected so they cannot be used inappropriately or for proprietary advantage. The second and third year will also see broad expansion of patient health data beyond the diabetes subset employed for system prototyping in year-one.

Sustainability

To be deemed a success, the SHARE project must demonstrate itself to be sustainable, in the sense that after development and implementation, on-going operating costs may be clearly shown to be more than justified by improvements in the quality of care in our rural, under-served, under-insured area. This consideration of ongoing costs is the primary reason that this RFP specifies consideration of sustaining operations costs.

Vendor's proposals should calculate licensing costs based on an assumption of 1,000 clinical users accessing 50,000 unduplicated patients in the MPI referencing 1,000,000 record views a year. Itemize all licensing costs throughout the Project, including local site and ARCH data center costs in the proposal section Cost Response for Project and beyond periods.

Patient Data Security Concerns

Confidentiality of medical records is of major concern in the design of the SHARE system. To safeguard patient privacy, the SHARE product will enforce strict access control policies determining who can see what data under what circumstances, and what happens when these rules are not followed. The rules will comply with HIPAA and the more stringent California Medi-Cal (Medicaid) regulations. The policies are to be embedded in the SHARE product technology so that users are forced into compliance with the access control policies. These policies include the rules for authentication, informed consent, data holder over-rides, and other elements such as logging, screen locking and auditing detailed herein. In general, the policies

presume access to data when the established rules are met: any practitioner who can electronically identity him or herself as an authorized participant, has patient consent, and has not had his or her access over-ridden by a data holder, can get access to the requested patient's data.

As regulations and policies regarding confidentiality and security of patient medical records continues to evolve, the embedded rules and procedures will also change, and so the product will incorporate flexibility in authentication and record provision at a number of levels, including but not limited to provider access, patient access, data stream security, clinic level data security and integrity, and the right of the patient, clinic, and system to block access to some or all records, and the right of the patient, clinic and system to audit record access trails.

Site Localization

Each constituent clinic is autonomous. Vendors will work with each clinic's record management software and technical staff to (1) develop software to interface between locally used software and the product's central servers, and (2) specify any additional equipment necessary to implement the data interchange. Vendors will propose equipment and software solutions, then the proposal will be reviewed and possibly revised by clinic staff, before purchases are made, either by the Vendor or ARCH.

Existing interface software may exist for the records management solutions in use at the individual clinics; Vendors will determine the suitability of existing software or the necessity to write new interface solutions. Interoperability with clinic equipment and software may determine local platform specifications, and so the open source policy described herein for the ARCH Data Center, while desirable for sustainability, is not imperative at local sites.

Examples of localization issues known at this time include the following:

Task Two – MPI: a smaller "HealthPro" site may be able to employ "Datalink" software on their existing hardware, but larger sites may require dedicated server and interface software, as determined by Vendor. CTHP will require customized interface solutions to export their RPMS record to the MPI.

Task Three - HRE: We have at least four distinct diabetes data formats; the software solution proposed for this Task should be powerful and flexible enough to be generalized to a more comprehensive record-sharing arrangement in subsequent years of this project. Data presentation issues must identify a uniform set of diabetes data fields regardless of variations in the four (or more) unique case management software formats. At least one site is expecting a browsable database archive [specifically a Microsoft SQL OLAP cube] from the patient demographics married to the EHR details. Site expectations do not bind the Vendor to a solution, but site autonomy may limit Vendor choices.

Task Four - Population Data: Two parallel consolidated datasets may be required, one identified by patient, and one "de-identified" for demographic analysis.

Equipment Specification and Purchase

As noted above, secure access to the system should be possible from any internet-connected computer running a current browser and capable of maintaining a secure data exchange. The Vendor will specify equipment for MPI and records at the central colocation facility, and, if necessary, at the clinics.

The Master Patient Index (MPI) will be maintained on servers co-located with other ARCH assets as determined and maintained by ARCH staff and Vendors. New equipment will be Dell rackmount servers running Intel chipsets. Debian is the preferred Linux distribution. All proposed equipment and software purchases will be subject to technical review and approval prior to purchasing by ARCH or the Vendor. During the development period, data pathways between ARCH's constituents and the MPI server will be upgraded; this upgrade is not seen as a requirement in the present RFP.

Software Scalability and Maintainability

SHARE is an engineering project. Its development will use known, commonly available, repeatable and accepted development methodology, languages and design representations.

SHARE must be scalable, meaning that it and its constituent modules and any applications or services upon which it depends will be configurable to support a total population comfortably in excess of the present total population of the region served, i.e. each clinic's service area, and for the total system of Lake and Mendocino Counties. Even though the year-one implementation is for a small set of data, SHARE must be capable of scaling up to other chronic disease management data and in principle to a full HRE capable of supporting clinic operations in year-two.

SHARE must be economically maintainable. The approach to data structures and functionality should be to flexible data- and table-driven processes with late binding. All software provided must either use common publicly available development libraries or readily available APIs. Source code for all new modules of the product will be adequately commented and documented so that a competent programmer will be able to change and adapt the software functions as required by changes in regulations, membership in the collaborative, and natural growth of the population served. The existence of proprietary code, implying as it does an indefinitely on-going relationship with the code owner, will likely affect long-term (post-grant) operational costs, and so proposals must declare all known licensing or other recurring costs through seven years of operation (assuming current costs are constant) so their impact on SHARE system sustainability can be evaluated.

Preferably, newly coded modules of the final product will remain the intellectual property of ARCH, the makers of this RFP, and will be copyrighted thereby. These elements will be placed in the public domain under the GNU General Public License.The Vendor is encouracged to use the CVS services on Source Forge and to seek wider collaboration in the open source solution under development.

An integral aspect of the SHARE product will be data conversion from several sources, including but not limited to the seven enumerated above. For data formats other than those enumerated (RPMS, Excel, PECS1 and 2) the Vendor will provide a flexible generic data

conversion capability. At final acceptance, all formats of data should be importable into the system, even if only by reducing them to a compressed image format (such as jpeg.)

All data under the control of the product, in particular the MPI, in addition to being secure and inaccessible to unauthorized queries, will be maintained in a robust, reliable, and verifiable format. Restore procedures will be documented, demonstrated and verified by the Vendor.

Usability and User interaction with the Vendor

Development of Task Two (MPI), and Task Three (Patient HRE) will include a consultation component with selected collaborators (development partners) in order to assure that the product usability meets the needs of clinical and clerical staff at the constituent clinics. The user interface, at its most elemental level, will honor the principle that any aggregation scheme such as this one must, in order to provide trustworthy data, serve first those responsible for entering and maintaining the data; the product will be transparent to the users (running transparently in the background behind existing records software), or will make their jobs easier. Staff benefits, such as improved accuracy, streamlined communication between practitioners, and compiled historical panel reporting, will hasten SHARE system acceptance. Improved usage features known to vendors should be enumerated and valued. While ARCH and the collaborators will rely on and trust the experience and judgment of the Vendors, it also relies on successful Vendors to maintain an open and receptive attitude toward the eventual owners of the system, the practitioners, support personnel, and patients served.

The development partners for Task Four (Population Data) will be public health professionals and clinic directors as determined by ARCH. The user interface will, most likely, be more powerful and rudimentary, and/or may rely on proprietary data analysis products.

Development partnerships for Task Five (Documentation and Training) will be less formal; as deliverables are presented, a small group of technical staff and users, convened by ARCH, will evaluate the three aspects of the Task (On-line Help, Documentation, and Training) and will make suggestions about improvements. The context sensitive On-line Help will be developed and evaluated in later prototype iteration demonstrations.

SHARE Project Management and Interaction with ARCH

SHARE project activities are diverse and require an intense level of coordination and communication to manage the risks and reach a solution that meets the needs of our participating members. The SHARE Project has a full time, non-technical Project Coordinator working out of the ARCH office to keep all stakeholders informed of tasks, milestones and progress. ARCH also has an on-site contract Technical Project Manager, PMP certified, with deep IT development and integration experience reporting to the SHARE Project Coordinator.

The Vendor should discuss in the proposal Organizational Capability and Management, the level of management and management controls of the proposed work efforts. The Vendor should call out how the proposed management and controls would interface with the SHARE Project Coordinator and ARCH Technical Project Manager, or even whether the ARCH Technical Project Manager services would be needed.

Emerging and Existing Standards

The vendor must be aware of emerging and existing data and record exchange standards. Since SHARE is intended as a template for and a distributable model to other rural health communities, it must be developed within current data exchange standards, and be developed cognizant of emerging standards.

In particular, the vendor should discuss in the Technical Response, how the BPHS Diabetes Collaborative Measures (Appendix 1) and eGov Health Information Exchange Standards, AAFP CCR and the HL7 standards will affect the development (see Appendix 2). The Vendor proposal shall point out any other standards affecting patient health data not referenced in this RFP.

3.5 Phases of Work

SHARE will be implemented in three phases corresponding to the grant funding years. The phase boundaries follow the Federal fiscal years of 1 September through 31 August.

In the initial proof-of-concept year-one, the SHARE Project will design, test, and implement the Health Records Exchange, permitting secure transport of patient EHR among the network members. The initial focus will be on case management for our chronic diabetes population, and specifically how the efforts of the existing collaboratives can be enhanced to deliver improved provider services and improved patient outcomes. In the second and third years, The SHARE Project will extend to include additional members and to encompass other chronic diseases. Also, the project will extend to provide access to protected patient data from Lab, Pharmacy, and Radiology services in Mendocino County.

Figure Phases-1 shows the provider-type needs of SHARE capabilities by project year. Figure Phases-2 shows functional access needed by SHARE members by project year.

Activities (and related tasks) for Year-One (project start to 31 August, 2004):

- Develop and publish revised HIPAA documents to enable legal sharing of patients EHR (task 2)
- Create record, user, and site level security to protect access to patient EHR (task 2)
- Build expert system tools to enable secure web access to patient EHR maintained by local diabetes health collaboratives (task 3)
- Host local Electronic Health Records to allow clinical access from the (task 3)
- Build a secure, centralized Master Patient Index to qualify authorized remote user access and to query individual patient EHR and population data (task 2)
- Acquire, test and deploy complementary analytical third party software to provide analyses of county-wide diabetes population (task 4)
- Begin evaluation of trends in population level community health indicators (task 4)

- Publish user and system documentation and tutorial materials on SHARE web server, and conduct user training on site (task 5)
- Train case managers to access and use MPI system (task 5)
- Provide operational tools and technical support for users (task 2/3)

Activities (and Tasks) for Year-Two (1 Sept 2004- 31 Aug 2005):

- Assist SHARE members in clinic level collection and maintenance of EHR (task 2 / 3)
- Expand MPI access to local EHR beyond diabetes collaborative to include all other patient (task 2 / 3)
- Provide tools and capabilities for Population Data Analysis (task 4)
- Build and deploy data integrity tools to ensure a continuous quality improvement process in maintaining patient MPI and EHR (task 2/3)
- Add new clinical participants to SHARE (task 2 / 3)
- Test MPI for secure delivery of Lab, Pharmacy, Radiology, and local hospital Emergency Room patient EHR (task 2 / 3)
- Evaluate and update documentation and training (task 5)

Activities (and Tasks) for Year Three 1 Sept 2005- 31 Aug 2006):

- Continue FY goals to include all healthcare providers in Mendocino County (task 2 / 3)
- Investigate expansion into Lake County (task 2/3)
- Conduct ongoing user training (task 5)

Figure Phases-1 Provider-type Usage of SHARE Capabilities by Year				
Provider Type	*MPI*	*HRE*	*Enrollment Services*	*Public Health Data*
Clinics	1	3	3	1
Hospital - Emergency	3/2	3/2	3	3
Hospital - Inpatient	n/a	4	4	4
Hospital - Outpatient	n/a	4	4	4
County Department – Public Health	1	1	3	1
County Department – Social Services	2	2	3	3
Pharmacies	2	2	n/a?	2
Labs	2	2	n/a?	2
Radiology	2	2	n/a?	2
Therapists	4	4	4	4
Private Practitioners	4	4	4	4
Specialists	4	4	4	4
Non-profit sites	4	4	4	4
Note: "4" = the years beyond the contract period				

Figure Phases-2 SHARE Member Functional Access Needed by Year								
SHARE Member	*Popula-tion Data*	*Intake Chart*	*Clinical Notes*	*Patient Identifier*	*Lab Report*	*Radiology Reports*	*Pharmacy Records*	*ER Records*
Alliance for Rural Community Health	1*	1*	1*	1*	1*	1*	1*	2*
Anderson Valley Health Center	n/a	1	1	1	2	2	2	2
Consolidated Tribal Health	n/a	1	1	1	2	2	2	2
Long Valley Health Center	n/a	1	1	1	2	2	2	2
Mendocino Coast Clinics	n/a	1	1	1	2	2	2	2
Mendocino Community Health Clinics	n/a	1	1	1	2	2	2	2
Potter Valley Community Health Clinic	n/a	1	1	1	2	2	2	2
Redwood Coast Medical Services	n/a	1	1	1	2	2	2	2
Frank R Howard Memorial Hospital	n/a	3	3	3	3	3	3	3
Mendocino Coast District Hospital	n/a	2	2	2	2	2	2	2
Ukiah Valley Medical Center	n/a	3	3	3	3	3	3	3
Mendocino County Dept. of Public Health	1	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Mendocino County Dept. of Social Services	n/a	TBD	TBD	TBD	TBD	TBD	TBD	TBD

1,2 ,3 = First, Second or Third year access planned * = Non Data-contributing SHARE Member

3.6 First Year Schedule

Following are the identified functionality and document deliverables from the SOW tentatively mapped to the first year schedule (April – August 2004). Vendor's proposals must provide a more detailed schedule showing proposed activities, functionality delivered (as an application or functional component), development milestones (prototype iterations, environments in-place, etc.) and documentation deliverables.

Month 1 T1-d1 Project Plan
Month 1 T1-d2 Software Management Plan

Month 4	T1-d3	Sustaining Operation Plan
Weekly/ Monthly	T1-d4	Status Reporting
Month 1	T2-f1	Provide a central web server hosting solution recommendation
Month 1-2	T2-f2	Provide a central web server application solution to host the core MPI services and data.
Month 2-5	T2-f3	Provide a unified set of services to create and maintain a master patient index (iterate the prototype)
Month 1-2	T2-f4	Propose web caching or staging servers
Month 4-5	T2-f5	Provide context sensitive help for any user level presentations
Month 1	T2-d1	Rules Tables for Access and Security
Month 1	T2-d2	Hardware and Communication Recommendation and Plan
Month 1	T2-d3	Prototype Plan for Task
Month 1-5	T2-d4A	Initial Requirements Specification (evolves to a As-Delivered Specification as prototype iterates)
Month 5	T2-d4B	As-Delivered Specification
Month 5	T2-d5	Test Plan and Acceptance Testing Results
Month 2-5	T3-f1	Provide a unified set of services for an HRE (iterate and evolve the prototype)
Month 4/5	T3-f2	Provide context sensitive help for any user level presentations
Month 1	T3-d1	Rules tables for HRE Site / Practitioner access and security
Month 1	T3-d2	Prototype Plan for the Task
Month 2-5	T3-d3A	Initial Requirements Specification (evolves to a As-Delivered Specification as prototype iterates)
Month 5	T3-d3B	As-Delivered Specification
Month 5	T3-d4	Test Plan and Acceptance Testing Results
Month 1	T4-f1	Rules Tables for user level security and access
Month 3-5	T4-f2	Provide query capability (iterate and evolve the prototype)
Month 4/5	T2-f4	Provide context sensitive help for any user level presentations
Month 1	T4-d1	Prototype Plan for the Task
Month 1	T4-d2A	Initial Requirements Specification (evolves to a As-Delivered Specification)
Month 5	T4-d2B	As-Delivered Specification
Month 5	T4-d3	Test Plan and Acceptance Testing Results
Month 4-5	T5-d1	Quick Start Guides, User Guides and Context Sensitive Help for each type of User
Month 5	T5-d2	Training materials for user training

4.0 General Conditions

4.1 Proposal Process

Contact Information

The Point of Contact for this RFP is:

Greg Wenneson

SHARE Technical Project Manager

Alliance for Rural Community Health

776 S. State Street, Suite 102-B

Ukiah, California 95482

707.462.1477 ext. 110 [fax] 707.462.1503

RFP Clarification/Addenda

Any clarification or interpretation of the proposal documents will be made by published written response. Vendors may submit questions to the contact and the question and answer will be published to all interested bidders within two days and posted on the ARCH website (http://www.ruralcommunityhealth.org/). Any question and response will be considered an addition to the RFP.

Confidentiality

Proposals submitted in response to this RFP are confidential within the guidelines established by HRSA.

Acceptance or Rejection of Proposals

ARCH reserves the right to reject at any time and for any reason, any proposal received as a result of the RFP or to negotiate separately with any and all competing Vendors.

4.2 Submission Deadline

To be considered, proposals must be received by the end of normal business hours (4:30pm) Pacific Standard Time:

A. in **electronic form** by 17 March at

gregw@ruralcommunityhealth.org

AND

B. in **paper form** by 19 March at the following address:

Alliance for Rural Community Health

776 S. State Street, Suite 102-b

Ukiah, California 95482

Attn: Greg Wenneson

ARCH plans to make a vendor selection decision, and will notify all participants, before the close of business Pacific Standard Time on 31 March.

4.3 Proposal Content and Format

Form

Proposals should be emailed in PDF format (MS Word is also acceptable) and 3 copies in paper on standard sized (8.5"x11") paper using both sides. Pages should have a 1" margin and type should be minimum 11 point in Arial, Times New Roman or other easily readable font. Proposals should not be bound, but should be clipped. Every page should clearly indicate the vendor's name and the sequence of the page within the proposal.

One paper copy must contain an original signature an officer authorized to bind the vendor to its provisions. Email receipt of the PDF by the response date is considered responsive delivery. The paper copies should arrive within two days of the electronic-form response date.

Format

Proposals should follow the below format, content and **maximum** page limits (fewer pages are preferred):

A. **Cover Page** containing Title, responding organization and contact information for the person or persons in the vendor organization who can answer questions about the proposal. One paper copy must contain an original signature and certification from an officer of the vendor binding the vendor to the offers made in the proposal.

B. **Table of Contents**

C. **Executive Summary** (2 pages) Answer why your proposed solution and your organization are the best responses to our needs.

D. **Technical Response**

1. **Critique the RFP** (5 pages) - summarize what has been requested in the RFP and what you feel has been neglected in the RFP and SOW.

2. **Technical Proposal:** For each Task in the SOW (25 pages total) containing the proposed technical solutions, deliverables and methodology used to produce the deliverables. Other Scope Considerations in RFP section 3.5 should be addressed.

E. **Management Response**

1. **Organizational Capability and Management** (7 pages) describe your firm's organization and capability which will support the work. Describe the work location and project communication interface with ARCH. Describe your management of the work and how this will interface with the SHARE Project Coordinator or use the ARCH Technical Project Manager services.
2. **Past Experience** (10 pages) containing project work experience and the use of the proposed development methodologies that relate to the work. Discuss what project lessons and knowledge will be applied to SHARE Past experience and Staffing will be examined together to ensure organizational knowledge can be applied to SHARE.
3. **Staffing** Provide summary resumes (2 page each) for Key Personnel (KP) proposed. Key Personnel are those critical for project success. Call out how KP skills and past experience will be applied to SHARE. Full KP resumes may be included in the Appendix. List skill types for other proposed staff. Work locations for any staff should be called out.
4. **Staff loading** (2 pages) provide a matrix showing staff loading in hours per month for the contract years 1-3. Key personnel should be shown individually and others may be clumped (e.g. "2 programmers")
5. **Schedule** (5 pages) provide a detail schedule for the project 3-year time frame showing the proposed activities and deliverables over the three-year project time line. The schedule should be consistent with the staff loading. For activities and deliverables already identified in the RFP, use the RFP identifiers (eg. T2-f3).
6. **Client References** (2 pages) provide three current references that directly relate to the proposed services. Include contact names, brief project summaries and contact phone/email.

F. **Cost Response**

1. **Proposed fee structure** (3 pages) provide a matrix showing proposed fee structure by month for the contract years 1-3. Call out individually: staffing, subcontracting, hardware, software and travel. Other expenses/fees should be explained.
2. **Sustaining Operations** (5 pages) provide a matrix for costs for maintenance, licensing and upgrades for any provided solutions for years 4-7 (beyond the contract). Discuss the overall cost effectiveness of the proposed solution for the contract term and sustaining operations beyond.

G. **Appendix** include any other documents, additional explanation or support for Proposal body material you think pertinent to the work. This section will not be scored.

Alternative Proposals and Variations

Vendors may propose alternative solutions in separate stand-alone proposals.

Vendors may propose variations from specifications in this document, such as the provision of an existing or customized proprietary solution. Such variations should be clearly called out in the Proposal Executive Summary.

4.4 Proposal Evaluation and Scoring

Rejection of Proposals

ARCH reserves the right to reject at any time and for any reason, any proposal received as a result of the RFP or to negotiate separately with any and all competing Vendors.

Proposal Acceptance and Evaluation

ARCH reserves the right to accept any proposal in part, in its entirety, or not at all.

The criteria for acceptance of a proposal and awarding of a contract will include

1. the vendor's experience and recommendations from clients in similarly sized projects of comparable complexity;
2. the experience and qualifications of personnel assigned by the vendor to carry out specific aspects of the work;
3. the organizational capability to develop, manage and deliver development projects s of similar types and sizes;
4. the comprehensiveness and demonstrated grasp by the proposal of the requirements and objectives of the project;
5. the feasibility of proposed solutions as judged by technical staff at ARCH and ARCH's consultants;
6. the sustainability and appropriateness of proposed solutions and its cost effectiveness in the short and sustaining operations time frames
7. other factors as determined by ARCH.

Vendors must be responsive to the Requirements in the RFP and respond within the framework of the "Format", above.

Proposals will be scored according to the following weighting:

A. Executive Summary **2 points**

B. Technical Response (43 points)

1. RFP Critique **5 points**

2. Tech Proposal to the Tasks of the SOW **38 points**

C. Management Response (40 points)

1. Organizational Capability and Management **7 points**

2.	**Past Experience in delivering similar solutions**	**10 points**
3.	**Staffing**	**8 points**
4.	**Staff loading to accomplish the work**	**5 points**
5.	**Schedule**	**5 points**
6.	**Client References**	**5 points**
D. Cost Response	**(40 points)**	
1.	**Proposed fee structure to deliver the work**	**20 points**
2.	**Sustaining Operations costs beyond project period**	**20 points**
E. Other Factors		**10 points**
TOTAL		**135 points**

4.5 Contract Type, Size and Negotiations

The successful Bidder to this RFP will supply project consulting, application development, system integration, hardware development, documentation, and training to satisfy the project requirements.

We expect the SHARE contract will be a Level of Effort, Cost Reimbursable contract. Vendors may propose variations on this type of contract or another form of contract.

The maximum SHARE contract size for MIS Services is approximately $400,000 for the first year (to August 31 2004). Subsequent year contract sizes are anticipated to be considerably smaller than the first year but in no event will this be more than seventy percent of the previous year. Since the SHARE project is dependent upon HCAP funding, a continued contract with the Vendor is dependent upon HCAP funding.

Vendor performance criteria will be developed during contract negotiations. At a minimum, functionality delivered in the prototype demonstrations must meet commonly accepted expectations for browser based user interfaces for ease of use and response time. Performance evaluation will also examine consistency of progress during prototype iterations to achieve end project goals.

Negotiations will be undertaken with the Vendor whose response best meets the needs of ARCH in terms of the requirements of this RFP, as determined by ARCH at its discretion. These negotiations may result in a formal contract with ARCH.

When a vendor is selected, ARCH expects to execute a Memorandum of Understanding (MOU) to begin work on the initial requirements while more detail is developed during contract negotiations.

APPENDIX 1 - BPHC Measures for Diabetes Population 2003 - 2004

Phase 2 Measures of Diabetes Population 2003-2004

Each Phase 2 Health Center is required only to track measures 1 through 3 along with registry size. You may choose to track any additional measures if you want to document your clinic performance in those measures, but you are not obligated to do so.

REQUIRED MEASURES				
Measure	**Definition**	**Data Gathering Plan**	**Goal**	Notes/Comments
1. Average HbA1c	Average HbA1c value for diabetic patients in the registry	On the last workday of each month, search the registry for all patients with a diagnosis of DM who have had an HbA1c in the past 12 months. Add all of these patients' most recent HbA1c values together and divide by the number of such persons.	≤7.0 %	If many patients in the registry do not have at least one HbA1c, then this measure may not give a useful estimate of population average. Thus, we require teams to report the number of patients for whom an HbA1c within the past 12 months has been documented. The goal ≤ 7% for average HbA1c derives from current ADA guidelines for individual patients, Reference 8.
2. Patients with 2 HbA1c's in last year (at least 3 months apart)	The number of diabetic patients in the registry who have had two HbA1c's (at least 91 days apart) in the last 12 months, divided by the total number of diabetic patients in the registry. Multiply by 100 to get percentage	On the last workday of each month, search the registry for all patients with a diagnosis of DM who have had two HbA1c's within the last 12 months (at least 91 days apart). At the same time, count the number of patients in the registry.	>90%	Reference 8
3. Documentation of self-management goal setting	The number of diabetic patients in the registry with documented self-management goals in the last 12 months divided by the total number of diabetic patients in the registry. Multiply by 100 to get percentage.	On the last workday of each month, search the registry for all patients with a diagnosis of DM who have documented self-management goals set with a clinician in the past 12 months. At the same count the number of patients in the registry.	>70%	References 11-16

ADDITIONAL RECOMMENDED MEASURES: These measures are not required; however, you will find that they can be used to enhance care and increase the ability to achieve the required measures above				
Measure	**Definition**	**Data Gathering Plan**	**Goal**	**Notes/Comments**
4. Cardiac Risk Reduction Option 1: ACE inhibitors or ARB medication	The number of diabetic patients in the registry 55 years and older who have a current prescription for ACE inhibitors or ARB medication divided by the number of diabetic patients older than 55 years in the registry. Multiply by 100 to get percentage.	On the last workday of each month, search the registry for all patients older than 55 with a diagnosis of DM who have a current prescription for ACE inhibitors or ARB medication. At the same time count the number of patients with a diagnosis of DM 55 years and older in the registry.	>75%	We believe usual practice ought to be a test of an ACE and if ACE is not tolerated, then try an ARB. In some cases, ARB will be first choice but because of cost of medication, ACEs ought to be a common starting point. ACEI/ARB option is based primarily on the HOPE trial Reference 1
5. Cardiac Risk Reduction Option 2: Statins	The number of diabetic patients in the registry 40 years and older who have a current prescription for statins divided by the number of diabetic patients older than 40 years in the registry. Multiply by 100 to get percentage.	On the last workday of each month, search the registry for all patients 40 years and older with a diagnosis of DM who have a current prescription for statins. At the same time count the number of patients with a diagnosis of DM 40 years and older in the registry.	>60%	The statin recommendation is based on the Heart Protection Study Reference 2.
6. Patients with BP <130/80	The number of diabetic patients in the registry with blood pressure reading less than 130/80 at last reading within the past 12 months, divided by the diabetic patients in the registry with a documented blood pressure in the last 12 months. Multiply by 100 to get percentage.	On the last workday of each month, search the registry for all patients with a diagnosis of DM with a BP < 130/80 in the last 12 months. At the same time count the total number of patients with a diagnosis of DM who have a documented blood pressure in the registry in the last 12 months.	>40%	The 130/80 cut-off changed from earlier years. UKPDS References 3 & 4 and HOT Trial Reference 5 justify (lower the better) and ADA clinical guidelines were changed several years ago to reflect this. See also current guidelines References 6,7,8 Teams should strive to document blood pressure for at least 90% of their registry patients.

7. Patients with LDL < 100	The number of diabetic patients in the registry who have had a fasting LDL less than 100 in the last 12 months, divided by the number of patients with a fasting LDL in the past 12 months. Multiply by 100 to get percentage.	On the last workday of each month, search the registry for all patients with a diagnosis of DM with a fasting LDL < 100 in the last 12 months. At the same time, count the number of patients with a diagnosis of DM who have had a fasting LDL in the last 12 months.	>70%	Cut-off of 100 aligns with ADA guidelines since 2000 Reference 7,8 and National Cholesterol Education Program (NCEP) Adult Treatment Panel III guidelines from 2001 Reference 9.
8. Aspirin or other antithrombotic Agent Use	The number of patients 30 years and older in the registry who are currently taking aspirin or other antithrombotic agent divided by the total number of diabetic patients 30 years and older in the registry. Multiply by 100 to get percentage.	On the last workday of each month, search the registry for all patients 30 years and older with a diagnosis of DM who are currently taking aspirin or other antithrombotic agent. At the same time count the total number of patients 30 years and older with a diagnosis of DM in the registry.	>80%	Reference 8
9. Patients who are current smokers	The number of patients in the registry who are current smokers (documented in the last 12 months), divided by the total number of diabetic patients in the registry with smoking status documented in the last 12 months. Multiply by 100 to get percentage.	On the last workday of each month, search the registry for all patients with a diagnosis of DM who are current smokers. At the same time count the total number of patients with a diagnosis of DM in the registry who have smoking status documented in the past 12 months.	<12%	Reference 8
10. Dilated eye exam in past year	The number of patients in the registry who have had a dilated eye exam in the last 12 months, divided by the total number of diabetic patients in the registry. Multiply by 100 to get percentage.	On the last workday of each month, search the registry for all patients with a diagnosis of DM who have had a dilated eye exam in the last 12 months. At the same time count the total number of patients with a diagnosis of DM in the registry.	> 70%	Reference 8

11. Comprehensive foot exam in the past year	The number of patients in the registry who have had an annual comprehensive foot exam documented in the last 12 months, divided by the total number of diabetic patients in the registry. Multiply by 100 to get percentage.	On the last workday of each month, search the registry for all patients with a diagnosis of DM who have had a documented annual foot exam in the last 12 months. At the same time count the total number of patients with a diagnosis of DM in the registry.	>90%	An annual comprehensive foot exam has been part of ADA guidelines for some time (LEAP exam is one type.) ADA guideline. Reference 8
12. Microalbuminuria screening in past year	The number of patients in the registry 12 years and older but less than 70 years of age who are not already on ACEI or ARB and have had a microalbuminuria screening test in the last 12 months, divided by the total number of diabetic patients in the registry 12 years and older but less than 70 years of age who are not already on ACEI or ARB. Multiply by 100 to get percentage.	On the last workday of each month, search the registry for all patients with a diagnosis of DM between 12 years and older but less than 70 years of age who are not on ACEI or ARB and who have had a microalbuminuria screening test in the last 12 months. At the same time count the total number of patients with a diagnosis of DM in the registry who are 12 years and older but less than 70 years of age and who are not on ACEI or ARB.	>50%	Reference 8. Screening may be accomplished by several different tests. Albumin/creatinine ratio test is the preferred test. This is the test item specifically measured in the PECS summary report for this measure Reference 10 discusses microalbuminuria screening for adults and children with diabetes.
13. Influenza vaccination	The number of patients in the registry who obtained an Influenza vaccination in last 12 months, divided by the total number of diabetic patients in the registry. Multiply by 100 to get percentage.	On the last workday of each month, search the registry for all patients with a diagnosis of DM who obtained an Influenza vaccination in last 12 months. At the same time count the total number of patients with a diagnosis of DM in the registry.	>90%	Reference 8.
14. One pneumococcal vaccine	The number of patients in the registry who have had one pneumococcal vaccination at any time, divided by the total number of diabetic patients in the registry. Multiply by 100 to get percentage.	On the last workday of each month, search the registry for all patients with a diagnosis of DM who have had one pneumococcal vaccination at any time in the past. At the same time count the total number of patients with a diagnosis of DM in the registry.	>90%	Reference 8.

15. Dental exam in past year	The number of patients in the registry who obtained a dental exam in last 12 months, divided by the total number of diabetic patients in the registry. Multiply by 100 to get percentage.	On the last workday of each month, search the registry for all patients with a diagnosis of DM who have had a documented dental exam in the last 12 months. At the same time count the total number of patients with a diagnosis of DM in the registry.	>70%	Reference 20
16. Depression Screening (12 months)	The # of patients with a documented screening for depression in the past 12 months *divided by* the # of patients in the registry. Multiply by 100 to get percent.	On the last day workday of each month from the registry: count the # of patients with a documented screening for depression in the past 12 months; count the total # of patients in the registry.	>50%	Depression is probably the most common mental disorder in primary care practice. Because depressed patients in primary care settings commonly present with somatic symptoms rather than complaints of depressed mood, clinicians must be proficient in the assessment and management of depression. The skillful differential diagnosis of depressive symptoms is essential because major depression commonly presents as an associated problem in patients with other physical illnesses. References 17-19

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Addendum for Phase 2 Diabetes Measures

Changes from Diabetes Collaboratives I, II, and III

Measure #	Measure	Changes from earlier DM collabs
1	Average HbA1c	The goal of 7% for average HbA1c now matches current ADA guidelines, reference 8
2	Patients with 2 HbA1c's in last year (at least 3 months apart)	None
3	Documentation of self-management goal setting	None
4	Cardiac Risk Reduction Option 1: ACE inhibitors or ARB medication	Cardiac risk reduction measure 4 option 1 was added in 2002-3.
5	Cardiac Risk Reduction Option 2: Statins	Cardiac risk reduction measure 4 option 2 was added in 2002-3.
6	Patients with BP <130/80	The level of cut-off changed from earlier years. UKPDS (reference 3 & 4) and HOT Trial reference 5 justify (lower the better) and ADA clinical guidelines were changed several years ago to reflect this. See also current guidelines (reference 6,7,8)
7	Patients with LDL < 100	Cut-off of 100 aligns with ADA guidelines since 2000 Reference 7,8 and National Cholesterol Education Program (NCEP) Adult Treatment Panel III guidelines from 2001 Reference 9.
8	Aspirin or other antithrombotic Agent Use	Note the age cut-off at 30 years.
9	Patients who are current smokers	
10	Dilated eye exam in past year	
11	Comprehensive foot exam in the past year	An annual comprehensive foot exam has been part of ADA guidelines for some time (LEAP exam is one type.) We do not restrict foot exams only to LEAP. Reference 8
12	Microalbuminuria screening in past year	There has been a change in the definition of the measure for 2003-2004 and PECS version 1.2.5 provides the updated statistic in the registry summary report. However, for phase 2 or other teams using an earlier version of PECS (up to 1.2.4) the measure computed in the PECS summary report called "microalbuminuria screen" was based on a measure which was "percent of pts with creatinine <1.5 and no nephropathy who have had a microalbumin screen within the past year." (The CVDEMS summary report has only "percent pts with Alb/Creat test in past year" which is not identical to the measure defined here.) "% pts screened for diabetic microalbuminuria with albumin/creatinine test in the past year" has been an optional measure in earlier collaboratives. The denominator at that time included all patients, including those patients who were outside the age range for recommended screening.
13	Influenza vaccination	

14	One pneumococcal vaccine	Summary reports in DEMS and CVDEMS erroneously report pneumococcal vaccines performed in past 12 months only. We should look across a patient's lifetime. This point is implemented in PECS, so health centers that are converting to PECS will note a big jump in their numbers, which is only due to the change in period of inclusion.
15	Dental exam in past year	
16.	Depression screening	

APPENDIX 2 - Other Standards and Emerging Standards

These references to standards and emerging standard must be considered in Proposal Responses.

- eGov HHS Automated Exchange of Data

  http://www.cdc.gov/cic/functions-specs/

- AAFP's Continuity of Care Record (CCR)

  http://www.aafp.org/x24962.xml

- HL7

  http://www.hl7.org/Library/standards.cfm

APPENDIX 3 – Santa Barbara County Care Data Exchange (SBCCDE)

The Mendocino SHARE Project is patterned upon successful HRE project developed in Santa Barbara County by the California HealthCare Foundation. Vendors are strongly encouraged to closely read the interim report published in July 2003 by SBCCDE. The report is located at:

http://www.chcf.org/documents/ihealth/SBCCDEInterimReport.pdf