Capital Facilities and Technological Needs Component

Executive Summary of Technological Needs Project Proposals

In November 2004, California voters passed the Mental Health Services Act (MHSA). As one of the five components of MHSA, the Capital Facilities and Technological Needs (CFTN) component is an opportunity to support the implementation of the County's MHSA goals through projects that address capital facilities and technological needs. The Counties current allocation of CFTN funds is $21,297,000. The proposed funding distribution recognizes the primacy of technological needs over capital facilities needs.

In order to access CFTN funding, the County must submit to the California Department of Metal Health (MHD), individual project proposals. These projects will enhance the current capabilities of the County Mental Health Department to improve the quality of care, establish key clinical and administrative metrics and to increase operational efficiency and cost effectiveness. The Santa Clara County Mental Health Department (MHD) has completed its MHSA Technological Needs (TN) project proposals. Following are summaries for each of the project proposals.

Technological Needs Project Proposals:

1. Electronic Health Record (EHR)
2. Enterprise data Warehouse (EDW)
3. County Health Record Integration Initiative (CHR)
4. Consumer Portal and Web-Site Redesign
5. Consumer Learning Center (CLC)
6. Bed and Housing Exchange Database (BHX); formally know as County Wide Resource Tracking
7. Consumer and Family Health Education

1. Electronic Health Record (EHR)

Project Type:	Clinical and Administrative Infrastructure - EHR System Project
Purpose:	To provide a comprehensive electronic medical record for consumers that can be shared in a secure and integrated environment across service providers.
Overview:	❒ This project will: • Reduce paper medical charts and provide an electronic mechanism to securely share critical client treatment data with all providers in the network; • Improve coordination of care between providers of services through integration of data; • Provide opportunities to reduce costs by streamlining and automation of clinic operations; • Produce better treatment outcomes because of better coordination of care and integrated treatment protocols. ❒ Once completed, the EHR project will provide an integrated system for all administrative and clinical consumer information. Treatment plans, assessments and progress notes will be recorded and securely maintained electronically. Appointment scheduling, lab orders and medication prescribing will be done online. Client registration and all forms normally completed during intake, including medical histories, will be attached to the electronic medical record and will facilitate coordinated treatment.

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	❒ The full EHR will support a secure; web based Personal Health Record (PHR) for consumers and their families with web-enabled interface for appointment scheduling and clinician communication.
Need:	The EHR is mandated by Federal, State and Local initiatives. The Federal Executive Order requires everyone to have an electronic health record by 2014. The Governor of California has backed this deadline with an Executive Order. SCVHHS has set a goal of switching to EHRs by 2013. The EHR will reduce paperwork and eliminate paper patient charts. This initiative will promote administrative efficiency and has been shown to be cost effective through national studies. EHRs improve patient safety and promote coordination of care amongst multiple providers.
Project Management:	The EHR is a complex project and Independent Project Manager (IPO) will be selected to oversee the implementation of the EHR. In addition, a Project Manager will be designated internally to guide the project. The Project Manager will oversee a thorough project planning process that will result in a Project Charter, Project Organization Chart and Project Work plan. The organization process will also establish a communication plan, a risk management plan and an issue management plan. Appropriate advisory and governance boards will be defined with representatives from across the organization and provider network. The Project Manager will be accountable to the Project's Executive Sponsor, IPO and Project Director(s). The Project Manager will be responsible for delegating responsibility
Resources:	***Staff:*** SCVHHS existing resources will lead the project and form the project team. Supplemental staff consisting of selected vendor, contracted staff, IPO project management oversight, and additional development, interface, implementation, testing, user acceptance testing, documentation, migration, report development, training and associated technical and support resources will be required and are documented in the budget. ***Equipment:*** Dedicated hardware will be required which will include servers, storage devices and other associated hardware. Provider needs for additional PCs and printers will be analyzed and incorporated into the project during the planning and design phases of the project. ***Software:*** Off-the-shelf commercially available (COTS) software will be utilized when ever possible for the EHR.
Technical Considerations:	Technical support will be provided by SCVHHS IS and vendor(s) resources, as appropriate, and will conform to SCVHHS IS standards. Security administration will be centralized within SCVHHS IS and adhere to their existing standards.
Timeline:	September 2008 – December 2014
Estimated Cost:	$13.4 Million

2. Enterprise Wide Data Warehouse (EDW)

Project Type:	Clinical and Administrative Infrastructure. Modernize and transform clinical and administration information systems. Infrastructure Project to integrate systems to meet State IISI goals.
Purpose:	To create a single data repository for all Mental Health Department service, administrative, financial and provider information. The data warehouse will integrate information to improve the ability of SCVHHS to measure key clinical and administrative metrics through enhanced business intelligence reporting capabilities. The data warehouse will directly support treatment decisions, new program design and management decision-making activities.
Overview:	This project will build an Enterprise Data Warehouse (EDW) that is capable of integrating data from the primary transaction system (EHR) and all other data sources that SCVHHS MHD uses, such as financial data, eligibility data from various payers and client care data from County and Contract Programs. ❒ The EDW will support interoperability across systems. ❒ The EDW will provide opportunities for development of data marts that can be tailored for specific management and operational reporting needs. ❒ The EDW Project will include the following major components: • Identify all data sources to be included in the data repository • Design of data warehouse, update processes and reporting requirements. • Obtain necessary hardware and software. • Install products and train staff. • Develop data maps, implement and test update processes. • Identify pilot project and develop work plan. • Develop Data Quality program and monitor data. • Develop reporting strategy and process • Develop end-user products such as dashboards and performance indicators.
Need:	The EDW will address an on-going need to improve clinical and administrative reporting capabilities for SCVHHS. The need for improving access to data and reporting was the number one issue identified during an information system assessment conducted in the summer of 2008. A single system that contains easily accessible, clean and reliable data, combined with robust reporting and business intelligence tool sets will significantly improve report generation and support active decision-making processes focused on supportable data related analysis and eliminate redundant databases and reports that have been created as temporary solutions to fill the gap.
Project Management:	Because an EDW is a complex project, this project will be accomplished in phases. The design and data sources that will be captured during the first phase will be determined based on identified business priorities and need. A business user group of staff, contracted providers and contracted staff will be formed to plan, develop requirements, and participate in testing and user acceptance testing activities.

Resources:	***Staff:*** SCVHHS existing resources will lead the project and form the project team. Supplemental staff consisting of contracted staff, IPO project management oversight, and additional architecture, design, development, implementation, testing, user acceptance testing, documentation, migration, report development, training and associated technical and support resources will be required and are documented in the budget. ***Equipment:*** Dedicated hardware will be required which will include servers, storage devices and other associated hardware. ***Software:*** Off-the-shelf commercially available (COTS) software will be utilized when ever possible for the EDW. Database and server software, reporting and Business Intelligence tool sets, integration and load software and back-up and security solutions will be required.
Technical Considerations:	Technical support will be provided by SCVHHS IS and vendor(s) resources, as appropriate. Existing SCVHHS IS security standards will be implemented for the EDW and Business Continuity Planning will be a part of the Project Planning Process.
Timeline:	January 2010 – December 2011
Estimated Cost:	$2.5 Million

3. County Health Record Integration Initiative (CHR)

Project Type:	Clinical and Administrative Infrastructure
Purpose:	To create a system focused on providing secure, real-time combined County wide client records that can be accessed across various service providing agencies and provide a collaborative cross agency view of registered consumer's demographic, services and care, medications, physical health services, insurance, employment, housing and other information.
Overview:	❒ This project will be initiated in a series of small phased-in projects that will enable multiple County agencies to share information about common clients in order to coordinate care and other County services. ❒ The first phase of the project is to develop a Master Patient Index (MPI) that can be used to capture consumer information within the broader SCVHHS system. ❒ The CHR objectives include: • Improved coordination of care between agencies providing services through integration of data; • Opportunities to reduce costs by eliminating duplicative or, ineffective services and possibly eliminate some multi-agency case management; • Easier navigation through service agencies across the County for consumers with more shared information, such as, demographics; • Better treatment outcomes because of better coordination of care and integrated treatment protocols.

Need:	Many consumers utilize services across multiple agencies both within the SCVHHS umbrella and outside of it. The ability of many of those agencies to obtain information about the range of services a consumer is accessing is currently limited and prohibits effective coordination of care and funding. The CHR supports development of a cross agency view of services, opportunities to identify gaps and measure outcomes through shared information. This need was identified during meetings with consumers, County Health, County Social Service, and County Juvenile Justice and County Criminal Justice liaisons.
Project Management:	Because the CHR is a complex cross agency project, this project will be accomplished in phases. Other agencies participating in the project will be asked to serve on an advisory / governance board to identify projects, establish project priorities, set standards and goals for the projects and monitor their progress. A cross agency task force and workgroup will be established to define data requirements, negotiate methods of data exchange, timelines, perform system and user acceptance testing and resolve problems and issues. The initial project will allow MHD to join other County health facilities under the SCVHHS umbrella in creating a Master Patient Index (MPI) that will allow all County health agencies to view a consolidated health record for every client. Other agencies will be included as the project progresses.
Resources:	***Staff:*** SCVHHS existing resources will lead the project and form the project team. Supplemental staff consisting of contracted staff, IPO project management oversight, and additional development, interface, implementation, testing, user acceptance testing, documentation, migration, report development, training and associated technical and support resources will be required and are documented in the budget. The other agencies that elect to participate will define the resources they will contribute to the task force and workgroups ***Equipment:*** Dedicated hardware will be required which will include servers, storage devices and other associated hardware. Any hardware procured and implemented will conform to County standards and the hardware will be housed in the County maintained data center. ***Software:*** Off-the-shelf commercially available (COTS) software will be utilized when ever possible for the CHR. Database and server software, reporting and Business Intelligence tool sets, integration and load software and back-up and security solutions will be required. All software procured and implemented will conform to County standards.
Technical Considerations:	Technical support will be provided by County and vendor(s) resources, as appropriate, and will conform to County standards. Existing County security, PHI and HIPAA standards and Business Continuity Planning will be enforced for the EDW.
Timeline:	January 2013 – December 2014
Estimated Cost:	$1.1 Million (MHD portion only. Other agencies will be asked to contribute a proportionate amount)

4. Consumer Portal and Web Redesign

Project Type:	Consumer and Family Empowerment
Purpose:	To provide additional services for consumers and their families by enhancing the current MH website and developing a secure consume portal. The Consumer Portal and Website Redesign Initiative (CPWRDI) focuses on developing a set of Internet applications that provide real-time, secure behavioral health and medical treatment services and outcomes information to consumers and the public in general that enhances the ability of the consumer to obtain Mental Health services, treatment, and other information.
Overview:	Santa Clara County recognizes that the intelligence and technological capabilities of the consumers and their families continues to grow and that the website needs to grow with their expertise. By 2014, the County will be offering more online services and consumers and their families will want more opportunities for online information. The Consumer Portal and Website Redesign Initiative (CPWRDI) is an opportunity to provide real-time, secure information and functionality as well as health-related information to consumers and the public in general that enhance the ability of consumers to obtain Mental Health services, treatment, and other information. The intent is to provide a consumer focused website that can grow with the consumer interests. Some of the ideas include: ➢ Housing information ➢ Personal Health Record (PHR) access which may include updates, such as, updates to consent forms, adding notes to the medical record or history via the portal ➢ Access to appointment scheduling and available services and providers ➢ NAMI links ➢ Links to other consumer sites of interest ➢ Blogs and chat room for consumers and families to share information. This project will also complete the State DMH IISI infrastructure requirement that all consumers have access to a secure PHR. Once the EHR is fully operational, portals will be implemented to allow consumer access to not only PHRs but other areas of the system such as appointment scheduling on line. The focus of this initiative is to improve access to health and treatment information for consumers and the general public. The primary objectives of the CPWRDI are to: • Provide online access to information, scheduling, providers, services and other functionality for current MHD Clients (consumers) via 'portal' technology that serves to extend the current and future information technology capabilities of SCVHHS to external audiences • Provide improved public access to Behavioral Health information by enhancing the current SCVHHS MHD website with a redesigned website with up-to-date content, integration with internal data systems and other public data sources that offers improved navigation and ease of use for the general public This project is a technology project but will be consumer driven. Feedback on the website and other online services will be solicited through an Advisory Group that will provide governance and direction to the project.

Need:	The need for this project was identified during meetings with consumers and staff. The need to provide more access to information via the website that supports consumers and their families continues to grow and must be part of a continuous and on-going plan for SCVHHS.
Project Management:	Project management will be provided by internal staff management. There are two major phases to this project: 1. Enhancement of the current access (Website redesign) 2. Creation of a Consumer Portal that is connected to the EHR The primary objectives of the CPWRDI are to: • Provide online access to information, scheduling, providers, services and other functionality for current MHD Clients (consumers) via 'Portal' technology that serves to extend the current and future information technology capabilities of SCVHHS to external audiences • Provide improved public access to Behavioral Health information by enhancing the current SCVHHS MHD website with a redesigned website with up-to-date content, integration with internal data systems and other public data sources that offers improved navigation and ease of use for the general public This project is a technology project but will be consumer driven. Feedback on the website and other online services will be solicited through an Advisory Group that will provide governance and direction to the project.
Resources:	***Staff:*** SCVHHS existing resources will lead the project and form the project team with a consumer advisory group. Technical support will be provided by existing County resources. ***Equipment:*** Web based servers will be required. ***Software:*** Any software needed will conform to County Standards. No custom development of software is envisioned. Additional licenses for existing software may be required.
Technical Considerations:	Existing County security standards will be enforced in the centers. All hardware and software will conform to County Standards and be maintained by existing County staff.
Timeline:	Phase I: January 2010 – June 2011 Phase II: January 2013 – December 2014
Estimated Cost:	$319,000

5. Consumer Learning Centers (CLC)

Project Type:	Consumer Empowerment
Purpose:	To provide additional support for consumers in MHSA recovery programs and living in the community by setting up supervised computer labs and basic PC skills training in established Wellness Centers across the County.

Overview:	• This project will establish computer labs in up to four Wellness Centers for consumer use.
	• Each lab will have up to 10 PCs available for consumer use and training seminars.
	• The labs will offer consumers:
	  • Broadband Internet access;
	  • Basic training in PC skills and MS-Office applications;
	  • Assistance with job search techniques;
	  • Assistance with resume building;
	  • Training in Internet search techniques for health, housing and other resource information; and Training in online business transactions such as banking and bill paying.

Need:	The need for this project was identified during meetings with consumers and staff. There is currently one consumer PC lab located in one facility. That lab has outdated equipment and is not staffed appropriately. Consumers and staff see great potential in a well-planned and modernized lab environment.
Project Management:	This project will be accomplished in phases. A prototype Learning Center will be built in one Wellness Center. User feed-back and experience will be solicited to determine usefulness and effectiveness of the project. Once a solid model is established, other labs will be opened. An advisory group of staff and consumers will be formed to plan the model Learning Center and review its effectiveness post-implementation.
Resources:	***Staff:*** SCVHHS existing resources will lead the project and form the project team. The labs will be staffed with a mix of full-time consumer staff and County staff. The labs will require staff to supervise and monitor activity and conduct training classes. Staff should be able to handle basic troubleshooting of PCs and printers and be able to change the toner / printer cartridges when necessary. They will also keep up with ordering supplies. Technical support will be provided by existing County resources. ***Equipment:*** New PCs, printers, scanners, supplies and workstation furniture will be required. ***Software:*** Any software needed will conform to County Standards. No custom development of software is envisioned. Additional licenses for existing software may be required.
Technical Considerations:	High speed internet access will be provided through the County's network. Existing County security standards will be enforced in the centers. All hardware and software will conform to County Standards and be maintained by existing County staff.
Timeline:	March 2010 – March 2011
Estimated Cost:	$572,000

6. Mental Health Bed and Housing Exchange Database Project (BHX)[1]

Project Type:	Clinical and Administrative Infrastructure
Purpose:	To provide a database with posting and query tools that will allow operators of inpatient/residential MH facilities services to post their open beds whenever the become available so that case managers, clinicians and others authorized to act on behalf of MH clients can quickly see what is available of housing and/or beds. The current approach is by word of mouth or having to call every facility on a rotating basis to learn of vacancies.
Overview:	• This project will obtain/build and implement database that will contain up to date postings for available inpatient/residential resources • Postings will be organized by levels of care (e.g. IMD, Residential Care Facility, Board and Care, Board and Care with Services, Temporary Shelter, Emergency Housing and Permanent Housing) • This database will be a secure site accessible via the internet. • Facility operators and/or housing specialists will be able to post their beds on a 24 x 7 basis using an e-form with a secure transaction. Each facility will maintain an up to date profile of their organization, services offered and other essential parameters. • Mental Health 24 Hour care and other case managers and clinicians who place clients in beds will be able to query for specific types of beds on a 24 x 7 basis. • Build a reporting capability to allow analysis of bed availability and request patterns Internal messaging system to indicate interest in a particular bed in a particular facility but actual arrangements for occupying the bed, payor review, etc. will take place outside the system.
Need:	The need for this project was identified during special needs assessment meetings with county MHD staff that work in the area of placement of clients in residential or inpatient beds. In other open meetings with contractors and then again with consumer and family members this need was further validated. The specific need is that there is no organized way for case managers or clinicians to determine bed availability for their clients without making calls to every facility each time the need arises. This causes delays in appropriate services delivery as well as missed opportunities for operators to get their open beds filled.
Project Management	This project will be will be undertaken as one four administrative and clinical MHSA TN projects. Because this is a long standing need the specific needs and process for the operation of this kind of Bed Information Exchange a clear picture of the need and how the exchange would work has been written in earlier This project is a single focus and will not be dependent upon progress with other projects. The database will be accessible through the internet. This straight forward endeavor will take on the traditional software development life cycle: Needs assessment, design stages, development, implementation, training and evaluation. An advisory group of County MHD staff from 24 hour Care, housing office, clinicians and contract service providers, facility representatives and consumer/family members will be formed to refine the scope of the project and develop the detailed plan, monitor the acquisition and development, guide the testing and review the results once the system has been implemented.

[1] Formally known as County-Wide Resource Tracking Project

Resources:	***Staff:*** SCVHHS Mental Health Dept. and SCVHHS IS Dept staffs in tandem with the selected vendor will accomplish the project. Leadership will come from the project sponsor in Mental Health. Technical support will be provided by existing SCVHHS IS Dept resources and vendor ***Equipment:*** Two appropriately-scaled servers may be needed for the database and Web access. ***Software:*** Any software needed will conform to SCVHHS IS Dept's IT Standards. It may be modified COTS, custom development or an ASP model. The specific mix of resources needed for development, installation and training will vary depending upon the platform and software selected. ***Training:*** will be conducted by mixed team of the County Mental Health SME staff and appropriate vendor involvement depending upon the future. ***Operational Workflow Development*:** This is as important as the database itself. The development of the multiple stream workflows for the application manager and 24 Hour Care managers, MHD clinicians, care facility s will be accomplished in tandem with the system development. Representatives of the major user groups will be included in this process along with the developers and MHD Management.
Technical Considerations:	This system will be accessed via the internet with a secure sign-on and authentication. High speed internet access will be provided for SCVHHS Mental Health staff through the County's network. All hardware and software will conform to County Standards and be maintained by existing SCVHHS IS staff.
Timeline:	January 2010 – December 2010
Estimated Cost:	$200,000

7. Consumer and Family Health Education

Project Type:	Consumer Empowerment
Purpose:	The County is committed to activities that empower consumers and their families and we believe that access to Health Education and other learning information is important for supporting consumer awareness. The empowerment of consumers will increase the sense of control over health and life issues. Consumers waiting for their appointments in clinic waiting rooms will be able to view important information about both mental illness resources and relevant physical healthcare issues, which contributes to a strong recovery/wellness program.
Overview:	• To increase awareness and provide support for consumers and their families this project will render Health Education and other learning information by equipping clinic waiting rooms with wall mounted LCD panels running learning information. • Project will research and implement the best solution for running Health Education media (e.g. DVD), such as a built in DVD player or attached to dedicated computers. • Media and hardware requirements will be evaluated and acquired. • Media will play in multiple languages and at appropriate comprehension levels.

Need:	The need for this project was identified during meetings with consumers and staff. Consumers and staff see great potential in providing Health Education and learning information to increase awareness and empower consumers while waiting to see their provider.
Project Management:	This project will be accomplished in phases. An advisory group of staff and consumers will be formed to identify and acquire the Health Education media to be used. One clinic waiting room will be equipped with the LCD panels and Health Education media. Consumer feed-back and experience will be solicited to determine usefulness and effectiveness of the project. Once established, other clinic waiting rooms will be equipped. Once all County clinics are operational, the project will focus efforts on expanding Health Education media to interested Contractor Agencies; up to twenty-five (25) locations. The advisory group will review effectiveness post-implementation.
Resources:	***Staff:*** SCVHHS existing resources will lead the project and form the project team. Technical support will be provided by existing County resources. A third party contractor (TBD) may be obtained for staff augmentation and for use at Contractor Agencies ***Equipment:*** New LCD panels, computers, wall mounting hardware and security mechanisms (e.g. locks or locking cabinets) may be required. ***System:*** New media will need to be created or purchased for Health Education. Licenses or multiple copies of purchased software may be required.
Technical Considerations:	Power for equipment provided through the County Facilities Department. Existing County security standards for equipment will be enforced in the clinics. All hardware and software will be maintained by existing County staff, taking into account all applicable security and safety requirements. Some locations may require walls to be reinforced for load bearing prior to installation. This activity would be coordinated through County Facilities department.
Timeline:	June 2011 – May 2012
Estimated Cost:	$131,000

Attachments:

Attachment 1: Proposed Project Budgets
Attachment 2: Technological Needs Roadmap to 2014

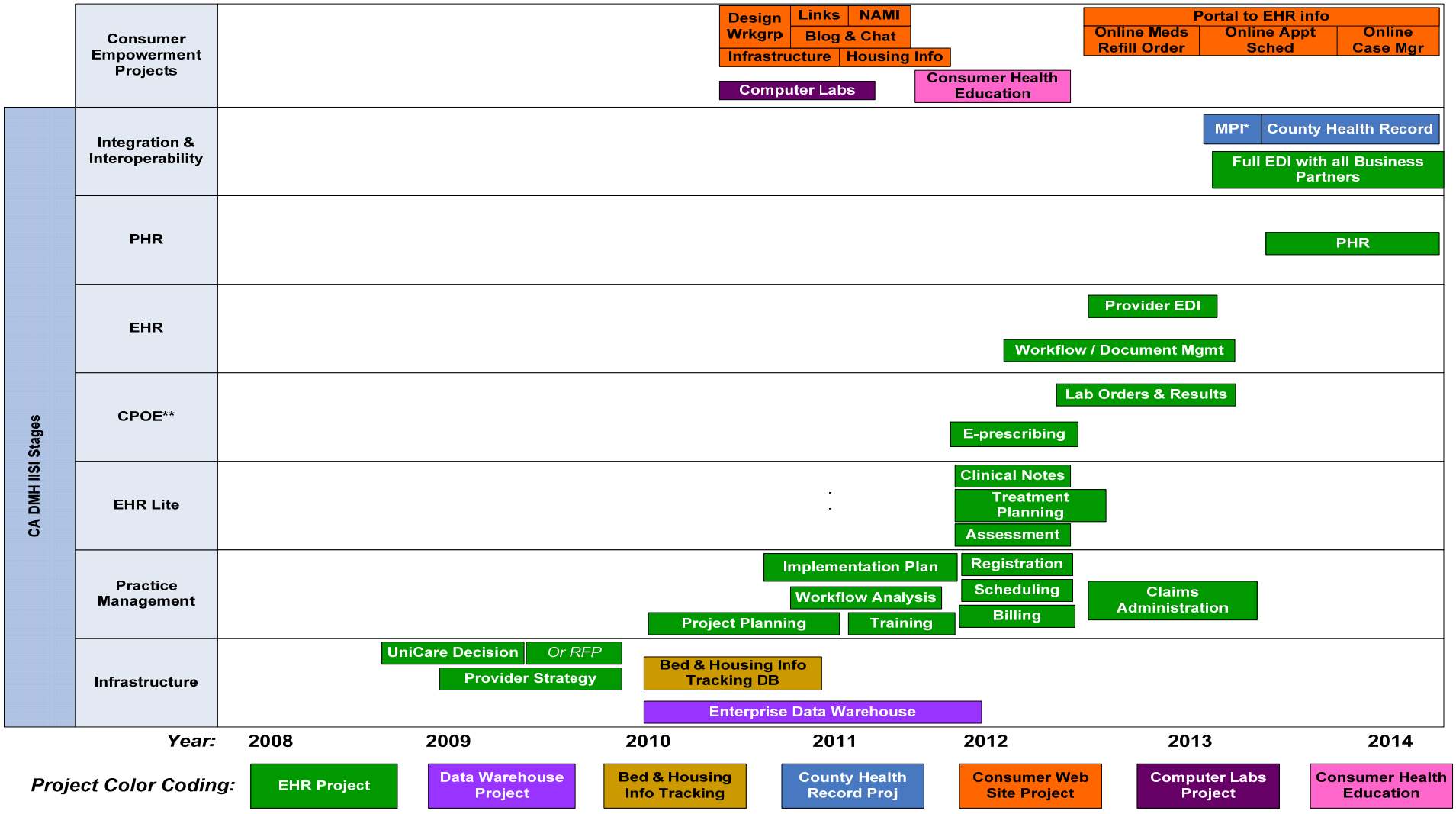
Attachment 1

MHSA Capital Facilities and Technological Needs Proposed Project Budget

Dollars in Thousands	1	2	3	4	5	6
Project	FY 08/09	FY 09/10	FY 10/11	Future Years	Total One-time Costs (1+2+3+4)	Estimated Annual Ongoing Costs
Electronic Health Record (EHR)	0	4,089	4,014	5,498	13,601	1,041
Enterprise Data Warehouse (EDW)	0	1,557	1,087	0	2,645	1,032
Consumer Health Record (CHR)	0	0	0	1,148	1,148	163
Bed & Housing Exchange Database (BHX)	0	126	74	0	200	35
Consumer Learning Centers (CLC)	0	147	424	0	572	145
Consumer Portal and Web-site Redesign (WEB)	0	140	179	0	319	86
Consumer and Family Health Education (HE)	0	0	82	49	131	6
Total Technological Needs Project Costs	**0**	**6,060**	**5,860**	**5,670**	**18,615**	**2,508**
Capital Facilities	0	0	0	0	2,682	
Total CFTN Project Costs	**0**	**6,060**	**5,860**	**5,670**	**21,297**	**2,508**

Technological Needs Roadmap to 2014

Attachment 2



* MPI = Master Patient Index
** CPOE = Computerized Prescribing & Order Entry

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