

Anticipating the Information Technology Contribution to System Transformation Through California's Mental Health Services Act

Presented by

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- **Overview of Electronic Mental Health Information System Vision**
- **Current Accomplishments**
 - *Decreasing Data Project and Submission Silos at DMH*
 - *Leveraging XML in Systems Development & Interoperability*
- **Proposed DMH EHR Vendor Validation Process**
- **Addressing Client and Family Member Requirements**
- **Navigating the MESA IT Funding Request Process**
- **Client, Family Member, County and Other Stakeholder Perspectives**

Overview of Electronic Mental Health Information System Vision

Overview of Electronic Mental Health Information System Vision

Major Purposes for Mental Health Information Systems:

Electronic information capture and distribution

(EHRs, PHRs, Info Access Networks)

- Electronic systems support and improve service delivery
- Electronic systems increase access/security of mental health information

Resource management

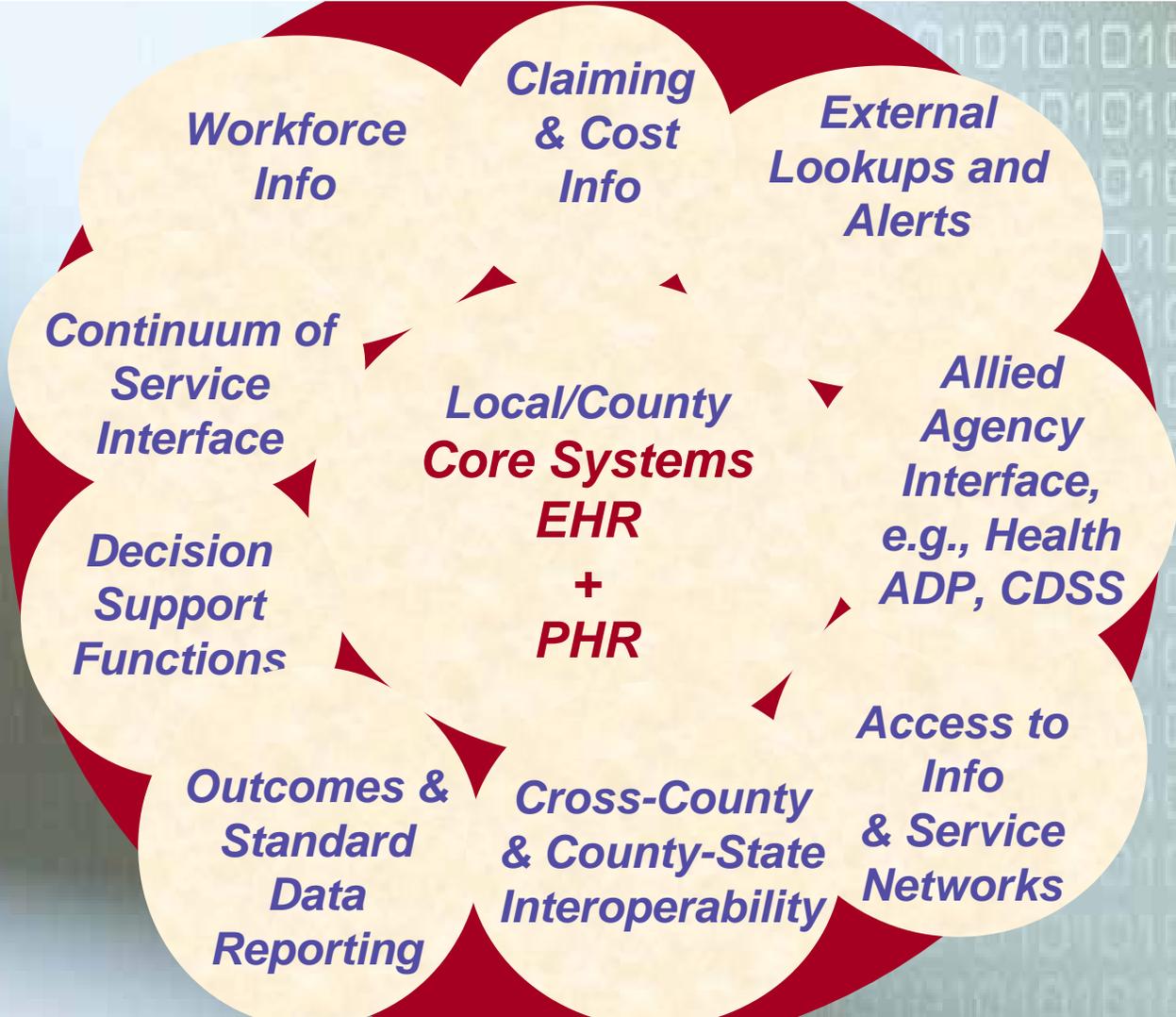
- Allocation, appropriation, funding stream tracking
- Cost reporting, Medicaid claiming, billing etc.
- Workforce development and training

Performance measurement / Accountability

- Evaluation of mental health service, program and system effectiveness
- Oversight and monitoring

A Transformational EMHIS for California Counties/Providers

- Technology, data and functionality standards
- Flexibility to business changes & options to maximize feasibility
- Interoperability and integration (decreasing silos & redundancy)



Current Accomplishments:

Decreasing Data Project and Submission Silos at DMH

Decreasing Data Project and Submission Silos at DMH

Linking Database Integration

CSI

DCR

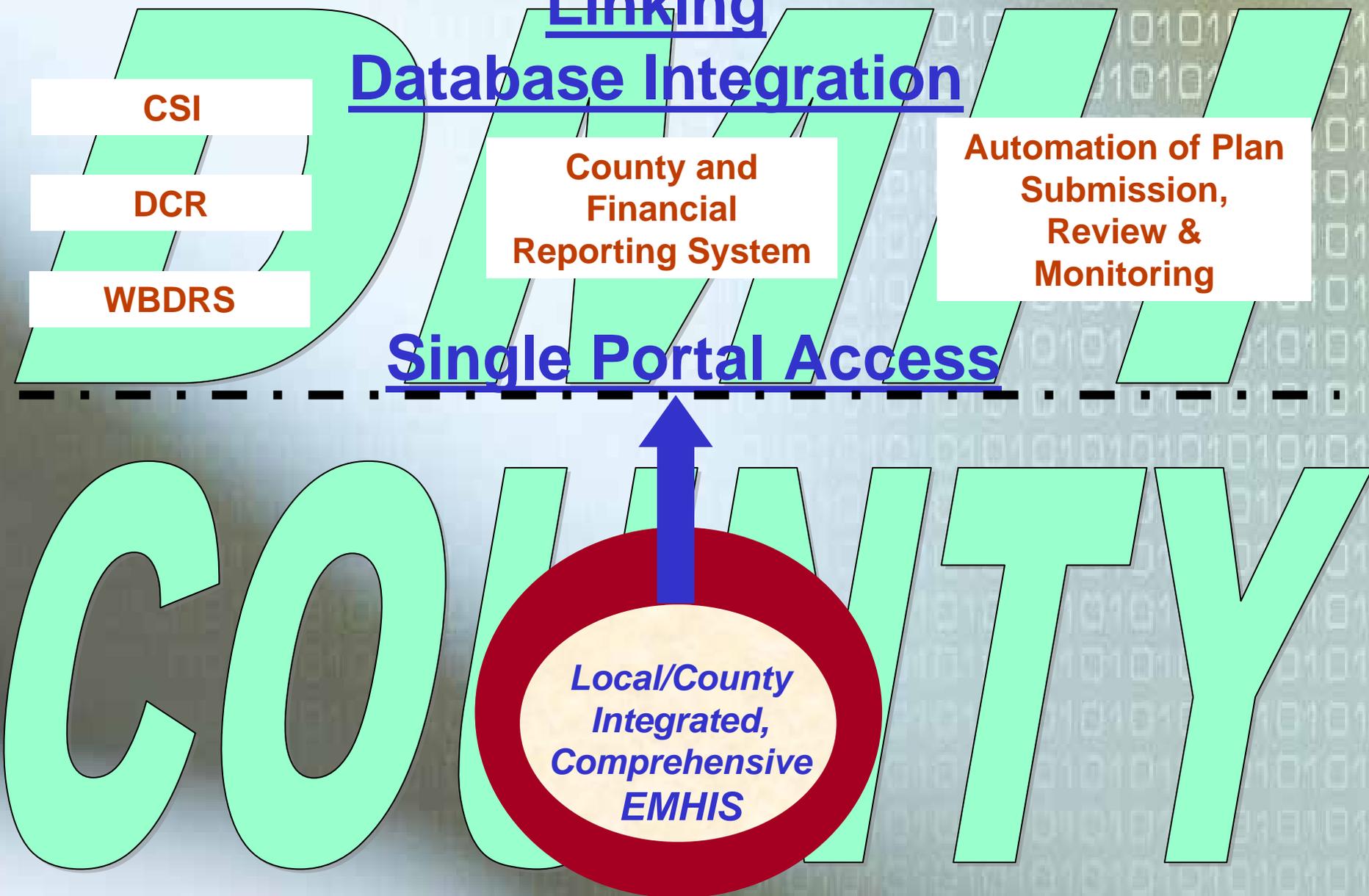
WBDRS

County and
Financial
Reporting System

Automation of Plan
Submission,
Review &
Monitoring

Single Portal Access

Local/County
Integrated,
Comprehensive
EMHIS



Current Accomplishments:

***Leveraging XML in Systems Development
& Interoperability***

Last Year's Plans:

DMH to provide an initial XML schema-based outcomes measurement application for county use

Schema-based information and reporting to be available via an access portal

XML schema-based application for county use:

Data Collection and Reporting System (DCR)

DCR System Design Concepts

1. Data Model with XML Data Type

- **Relational database tables have one or more XML-type data elements to dynamically accommodate future changes in data needs.**

2. Application Screen Definitions

- **Application screen definitions for the MHSA assessment forms are stored in the database as:
Form->Domains->Sub-Domains->Questions->Responses.
This model dynamically supports changes to forms.**
- **The form has an associated version number with an “effective” date range for the form.**

3. XML Style Sheets

- **The forms are being built using a combination of XML generated from the DCR database and XML style sheets (XSLT).**
- **Counties can potentially leverage the XML and XSLT documents to create their own screens.**

DCR System Preview: Centralized DMH Application

1. System Overview Screen

- Shows DMH system messages
- Shows quarterly report reminders for FSPs
- Shows specified key event statuses exceeding 30 days

2. My FSP Screen

- Shows all FSPs that belong to user's group
- Provides read-only or read-write access depending upon user Role
- Shows quarterly reports that are due for the Active FSPs
- Allows searching by last name or CCN

3. Assessment Forms Screens

- Dynamically constructs the screen from the screen definition in the database
- Allows Add/Update/Query operations depending upon business rules and user Role (e.g., Addition of questions to forms)

Department of Mental Health

MHSA Data Collection and Reporting



Welcome **County User**

Provider: Alameda
County: Alameda
Last Access Date: 3/9/2006 11:50:55 AM

System Messages

- [MHSA Documents](#)
- [Recent changes to FSP Outcome forms](#)
- [Upcoming DMH training](#)
- [New DCR features](#)

30 Day Key Event Notification(s)

Partner	CCN / County ID	KET	KET Date
Doe, John	9876543210	Jail	01/01/2006
Smith, Steve	1234567890	Acute Medical Hospital	01/01/2006
Taylor, Tim	3216549870	Acute Psychiatric Hospital	01/02/2006

Quarterly Assessment(s) Due

Partner	CCN / County ID	Due Date
Doe, John	9876543210	02/01/2006
Smith, Steve	1234567890	02/01/2006
Taylor, Tim	3216549870	03/02/2006

[My FSP](#)

[Reports](#)

[Admin functions](#)

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MHSA Data Collection and Reporting



Welcome **County User**

Provider: Alameda
County: Alameda
Last Access Date: 3/9/2006 11:50:55 AM

Full Service Partners

Assigned Full Service Partnerships

Search by

Page Size << ≤ Page 1 of 10 ≥ >>

Total # of records found:45

PARTNER NAME	COUNTY FSP ID	CCN #	PARTNERSHIP DATE	DATE OF BIRTH
Cotton, Jane	383726151831434	234-142-336	01/02/2003	01/02/1978
Doe, John	343723152834435	352-142-366	01/01/2006	01/01/1970
Smith, Steve	943262658844635	234-744-366	01/03/2003	01/02/1975
Taylor, Tim	357908643215835	975-142-336	01/02/2002	01/02/1974
Wendell, Wendy	157953268943521	964-142-366	01/02/2000	01/02/1980

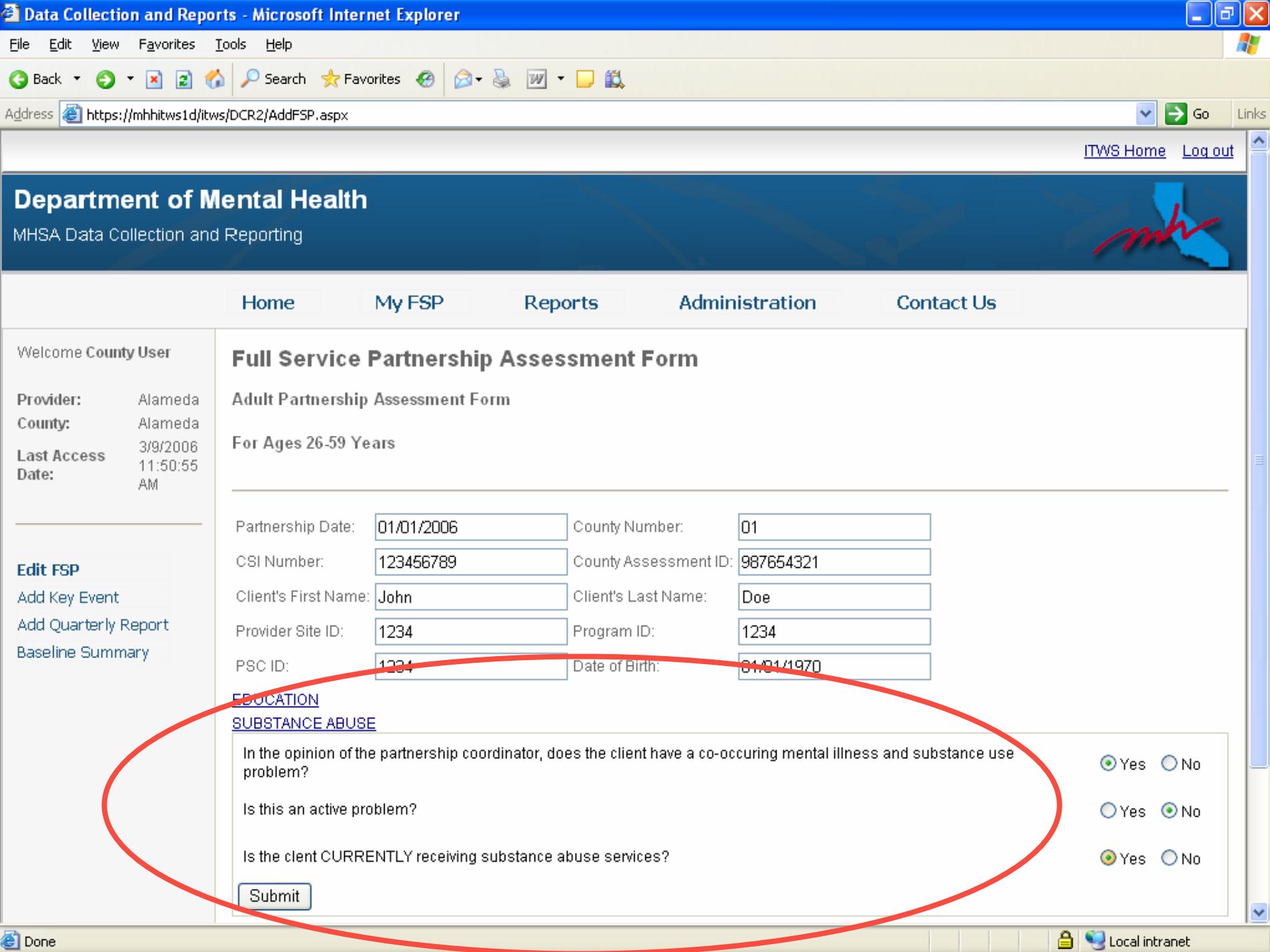
My FSP

- Add New Partner
- Add Key Event
- Add Quarterly

**DCR Schema-based information
and reporting available through ITWS website**

XML Schema Definitions

- 1. Counties are able to define data for locally developed systems on the basis of XML Schema Definitions (XSD) files available from the DMH ITWS website.**
- 2. County XML files to be uploaded to the ITWS website from local systems can be validated against the XSD before reporting to DMH**
- 3. Counties who choose to use a relational data model that includes the XML data type can potentially leverage the XML, XSD and XSLT documents to build their systems.**
- 4. Counties can subsequently dynamically update their outcome systems with new data elements using the updated XSD documents provided by DMH without having to change the physical data model.**



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MHA Data Collection and Reporting



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- My FSP
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- Contact Us

Welcome County User

Provider: Alameda
County: Alameda
Last Access Date: 3/9/2006 11:50:55 AM

Full Service Partnership Assessment Form

Adult Partnership Assessment Form

For Ages 26-59 Years

Partnership Date:	<input type="text" value="01/01/2006"/>	County Number:	<input type="text" value="01"/>
CSI Number:	<input type="text" value="123456789"/>	County Assessment ID:	<input type="text" value="987654321"/>
Client's First Name:	<input type="text" value="John"/>	Client's Last Name:	<input type="text" value="Doe"/>
Provider Site ID:	<input type="text" value="1234"/>	Program ID:	<input type="text" value="1234"/>
PSC ID:	<input type="text" value="1234"/>	Date of Birth:	<input type="text" value="01/01/1970"/>

EDUCATION

SUBSTANCE ABUSE

In the opinion of the partnership coordinator, does the client have a co-occurring mental illness and substance use problem? Yes No

Is this an active problem? Yes No

Is the client CURRENTLY receiving substance abuse services? Yes No

Welcome **Ken Schallmo**

Provider: DMH-IT
County: Alameda
Last Access Date: 3/10/2006 7:08:15 AM

- Admin Functions**
- Add Question(s)
 - Approve Partner
 - Add New User
 - Approve User

Add New Question and Responses

Adult Substance Abuse Domain

Substance Abuse Questions

	Question Text	Control Type	Control ID	Sort Order	Required
Details	In the opinion of the partnership coordinator, does the client have a co-occurring mental i..	RadioButtonList	MentallIllness	1	0
Details	Is this an active problem?	RadioButtonList	ActiveProblem	2	1
Details	Is the client CURRENTLY receiving substance abuse services?	RadioButtonList	AbuseServices	3	0
Details	Has the client received any PREVIOUS substance abuse services?	RadioButtonList	xmlPreviousServices	4	0
Add New				5	0

Edit Question Properties

Question Text Has the client received any PREVIOUS substance abuse services?	Control Type RadioButtonList	Control ID xmlPreviousServices	Sort Order 4	Required <input type="checkbox"/>
--	--	--	------------------------	---

Add / Edit Question Options

Option Text	Sort Order
Yes	1
No	2

XML Produced By Changes Made to User Interface

XML Before new question

```
<Form Name="PAF" Group="ADULT">
  <Domain Name="SubstanceAbuse">
    <Question QuestionID="1" QuestionLabel="In the opinion of the partnership
  coordinator, does the client have a co-occurring mental illness and substance
  use problem?" ControlType="RadioButtonList" Required="0"
  Table="SubstanceAbuse" Column="MentalIllness">
      <Response Value="1" Label="Yes" />
      <Response Value="0" Label="No" />
    </Question>
    <Question QuestionID="2" QuestionLabel="Is this an active problem?"
  ControlType="RadioButtonList" Required="1" Table="SubstanceAbuse"
  Column="ActiveProblem">
      <Response Value="1" Label="Yes" />
      <Response Value="0" Label="No" />
    </Question>
    <Question QuestionID="3" QuestionLabel="Is the client CURRENTLY receiving
  substance abuse services?" ControlType="RadioButtonList" Required="0"
  Table="SubstanceAbuse" Column="AbuseServices">
      <Response Value="1" Label="Yes" />
      <Response Value="0" Label="No" />
    </Question>
  </Domain>
</Form>
```

XML output After new question

```
<Form Name="PAF" Group="ADULT">
  <Domain Name="SubstanceAbuse">
    <Question QuestionID="1" QuestionLabel="In the opinion of the partnership
  coordinator, does the client have a co-occurring mental illness and substance
  use problem?" ControlType="RadioButtonList" Required="0"
  Table="SubstanceAbuse" Column="MentalIllness">
      <Response Value="1" Label="Yes" />
      <Response Value="0" Label="No" />
    </Question>
    <Question QuestionID="2" QuestionLabel="Is this an active problem?"
  ControlType="RadioButtonList" Required="1" Table="SubstanceAbuse"
  Column="ActiveProblem">
      <Response Value="1" Label="Yes" />
      <Response Value="0" Label="No" />
    </Question>
    <Question QuestionID="3" QuestionLabel="Is the client CURRENTLY receiving
  substance abuse services?" ControlType="RadioButtonList" Required="0"
  Table="SubstanceAbuse" Column="AbuseServices">
      <Response Value="1" Label="Yes" />
      <Response Value="0" Label="No" />
    </Question>
    <Question QuestionID="4" QuestionLabel="Has the client received any
  PREVIOUS substance abuse services?" ControlType="RadioButtonList"
  Required="0" Table="SubstanceAbuse" Column="xmlPreviousServices">
      <Response Value="1" Label="Yes" />
      <Response Value="0" Label="No" />
    </Question>
  </Domain>
</Form>
```

Department of Mental Health

MHSA Data Collection and Reporting

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Welcome **Ken Schallmo**

Provider: DMH
-
IT

County: Alameda

Last Access Date: 3/10/2006
7:14:24 AM

Full Service Partnership Assessment Form

Adult Partnership Assessment Form

For Ages 26-59 Years

Partnership Date:	<input type="text" value="01/01/2006"/>	County Number:	<input type="text" value="01"/>
CSI Number:	<input type="text" value="123456789"/>	County Assessment ID:	<input type="text" value="987654321"/>
Client's First Name:	<input type="text" value="John"/>	Client's Last Name:	<input type="text" value="Doe"/>
Provider Site ID:	<input type="text" value="1234"/>	Program ID:	<input type="text" value="1234"/>
PSC ID:	<input type="text" value="1234"/>	Date of Birth:	<input type="text" value="01/01/1970"/>

EDUCATION

SUBSTANCE ABUSE

In the opinion of the partnership coordinator, does the client have a co-occurring mental illness and substance use problem? Yes No

Is this an active problem? Yes No

Is the client CURRENTLY receiving substance abuse services? Yes No

Has the client received any PREVIOUS substance abuse services? Yes No

Table - Domai...ubstanceAbuse*

	Column Name	Data Type	Allow Nulls
	SubstanceAbuseID	bigint	<input type="checkbox"/>
	AssessmentID	bigint	<input type="checkbox"/>
	MentalIllness	int	<input type="checkbox"/>
	ActiveProblem	int	<input type="checkbox"/>
	AbuseServices	int	<input type="checkbox"/>
	SubstanceAbuseXML	xml	<input type="checkbox"/>
	ModifiedDate	datetime	<input type="checkbox"/>
	ModifiedUserID	int	<input type="checkbox"/>
	CreatedDate	datetime	<input type="checkbox"/>
	CreatedUserID	int	<input type="checkbox"/>
			<input type="checkbox"/>

Column Properties



(General)

(Name)	SubstanceAbuseXML
Allow Nulls	No
Data Type	xml
Default Value or Binding	
XML Type Specification	

Table Designer

Output of data stored in Substance Abuse table **BEFORE** new column

MentallIllness	ActiveProblem	AbuseServices	SubstanceAbuseXML
1	0	1	NULL

Output of data stored in Substance Abuse table **AFTER** new column

MentallIllness	ActiveProblem	AbuseServices	SubstanceAbuseXML
1	0	1	<xmlPreviousServices value="0" />

SubstanceAbuseXML column is extensible. You can add as many new elements as you would like without having to change the physical data model. For example:

MentallIllness	ActiveProblem	AbuseServices	SubstanceAbuseXML
1	0	1	<xmlPreviousServices value="0" /> <xmlNewQuestion1 value="1" /> <xmlNewQuestion2 value="0" /> <xmlNewQuestion3 value="1" /> <xmlNewQuestionN... value="..."

XML (in Summary)

- 1. XML is a powerful mechanism that can be used to build and maintain systems that are flexible to changes in business processes and data collection needs.**
- 2. XML schemas (data codes and rules) can be automatically applied to allow data to be
validated,
displayed,
distributed
and stored
...in numerous and flexible ways.**
- 3. XML will become the interoperability and data transfer/reporting standard between Counties and DMH.**

Proposed DMH EHR Vendor Validation Process

Proposed DMH EHR Vendor Validation Process

- DMH wants to provide a minimum statewide standard for the county mental health programs to assess EHR systems.
- MHSAs create initial and potential on-going funding mechanisms to enable the counties to consider contract agreements with EHR vendors
- Compliance with federal initiatives to implement EHR's nationwide; President's New Freedom Commission Objectives and Executive Order 13335

MHSA IT Workgroup

The MHSA IT Workgroup is comprised of representatives from the following:

- **Mental health services (MHS) consumers and family members**
- **Organizations representing MHS consumers and family members**
- **Mental health services providers**
- **California counties - small, medium and large**
- **Currently contracted county IT vendors**
- **California Department of Mental Health**

MHSA IT Workgroup (Cont'd)

Workgroup Objectives

- **Facilitate the development and implementation of IT methods to be used for data collection to meet the MHSA requirements**
- **Assist in testing and coordination during system rollout**
- **Assist in resolving issues related to the design, development, testing and deployment of IT systems**
- **Assist with the development of a rollout plan for Data Collection and Reporting (DCR) system to those counties ready to begin providing MHSA services early in calendar year 2006**
- **Disseminate information related to the system and the program**

Workgroup Expectations

- **Provide ideas around implementing MHSA requirements**
- **Assist in resolving issues**
- **Participate in pilots**
- **Facilitate communication of project concepts within the mental health community**
- **Be leaders of the IT implementations**

Current DMH Partners for EHR/PHR Development & Implementation

- **DMHC** - California Department of Managed Health Care
- **DHS** - California Department of Health Services
- **CalRHIO** - California Regional Health Information Organization
- **CalOHI** - California Office of HIPAA Implementation

CA Health Info Security/Privacy Collaboration

- CalOHI partnering with CalRHIO
- Submitted proposal to RTI International
- Identify:
 - Business practice and State law barriers to the interoperability of health information exchange (HIE)
 - Potential solutions to those barriers
 - Implementation strategies to resolve the barriers
- Process includes:
 - Inviting statewide health care industry stakeholders to participate in:
 - 3 conferences
 - Review and comments on reports
 - Interaction at the national level

“Key Capabilities of an Electronic Health Record System” *Institute of Medicine (IOM), July 2003*

1. Health Information and Data - diagnoses, allergies, and lab results
2. Results Management - New and past test results by all clinicians involved in treating the patient
3. Order Management -Computerized entry and storage of data on all medications, tests, and other services
4. Decision Support - Electronic alerts and reminders to improve compliance with best practices, ensure regular screenings and other preventive practices, identify possible drug interactions, and facilitate diagnoses and treatments
5. Patient Support - Tools offering patients access to their medical records, interactive education and the ability to do home monitoring and testing

“Key Capabilities of an Electronic Health Record System”

Institute of Medicine (IOM), July 2003

(Continued)

6. Administrative Processes --Tools, including scheduling systems, that improve administrative efficiencies and patient service
7. Reporting- Electronic data storage that uses uniform data standards to enable physician offices and healthcare organizations to comply with federal, state and private reporting requirements in a timely manner
8. Electronic Communication and Connectivity - Secure and readily accessible communication among clinicians and patients

- *Adapt EHR core functions for an Electronic Mental Health Record System for California Counties.*

Capabilities of Ideal Electronic Mental Health Information Systems

- **Report in real-time: service and billing/claiming information, assessment, correspondence, treatment planning, charting, medications, outcomes, referrals**
- **Function as a multi-user, multi-disciplinary, multi-functional, and multi-modal (multiple types of information, including text, images, etc.) enterprise**
- **Allow clients, providers, caregivers, and appropriate others to enter and receive information**
- **Are governed by access rights and security standards established by confidentiality and privacy laws**

Capabilities of Ideal Electronic Mental Health Information Systems

Flexible

- Able to change data structures, requirements, information acquisition methods and tracking on an ongoing basis.

Extensible

- Scalable for both small providers and large county systems.
- Must be an “Open” system architecture allowing new features and functions to be added or plugged in at will.

Interoperable and Secure

- The system needs to operate and interface easily with other systems.
- Information must be protected for privacy at all times.

Responsive

- Information should flow into the system in an “as soon as gathered mode” rather than weekly, monthly, etc. intervals.
- Business requirement changes must flow into the system as needed.

Vendor Validation Process

- Review the requirements derived by other states and federal entities (Center for Medicaid/Medicare Services – CMS)
- Work with designated stakeholders to define the minimum EHR requirements for CA's county mental health programs
- Develop a Request For Information (RFI)
 - Determine vendors interested in providing EHR systems
 - Description of vendor products to continue vendor validation process

Vendor Validation Process (continued)

- Vendors from RFI process will be assessed on the following criteria:
 - Minimum EHR requirements
 - Includes security and interoperability
 - Reference Checks
 - Demonstrated Functionality
 - User Experience
 - Ease in customization
 - Financial viability of the vendor

Reference Checks

- Panel of stakeholders would survey a broad set of EHR system users:
 - Are any installations for *county* based mental health programs?
 - How responsive is the vendor to customer suggestions or need for enhancements?
 - Can the vendor demonstrate real time interoperability with other systems and among other installations of the same product?

Vendor Demonstrations

- Vendors will demonstrate the workflow of each system
- State staff with stakeholders will create test “scripts” to demonstrate the required functionality, including:
 - Tests for system integration and interoperability
 - Test for alerts and error checking
- Designated representatives (clients and family members, providers, county and state staff) will enter and “process” client information
- Review the ability to customize (flexibility in changing fields and functionality)

Vendors Described

- Based on predefined criteria
 - Systems will be given percentages for overall requirements met by category
 - Reference checks
 - User experience ratings by designated stakeholders
 - Ease in customization
 - Other criteria defined in the stakeholder process

Validated Vendors

- List of “Validated” EHR vendors
- Counties will have documented findings
 - Vendors can comment on information documented
 - Functionality will be listed by categories with %’s
 - Side by side comparisons of individual vendors
 - Hardware and licensing requirements specified
- Vendors can request to be reviewed for later inclusion on Validated List

Connection to Funding

- MHSA funding available to contract with validated EHR vendors
- If a county has already obtained (procured) a system, MHSA funding is available to help them achieve standards and develop enhancements

Next Steps

- Engage County Directors (CMHDA)
 - Coalition of Counties
 - EQRO
- Develop Charter
 - Define Stakeholders
 - Clearly define goal, objectives & scope
- Obtain consultants to guide RFI development and oversee validation process

MHSA EHR Goal

Transform the county mental health information systems into an interoperable, comprehensive information network that can easily and securely capture, exchange and utilize information to facilitate the highest quality, cost-effective services and supports.

Addressing Client and Family Member Requirements

Stakeholder Feedback

- **Make IT Client and Family Member Focused**
- **Consumer Access to Records**
- **Consumer Access to Computers**
- **Consumer Input into Electronic Records**
- **Informational Trainings and IT Support**
- **Trust, Permissions, and Security Issues – HIPAA**

Stakeholder Feedback

Ideal electronic mental health information systems are:

- **Culturally Competent**
Touch screen, voice, etc.

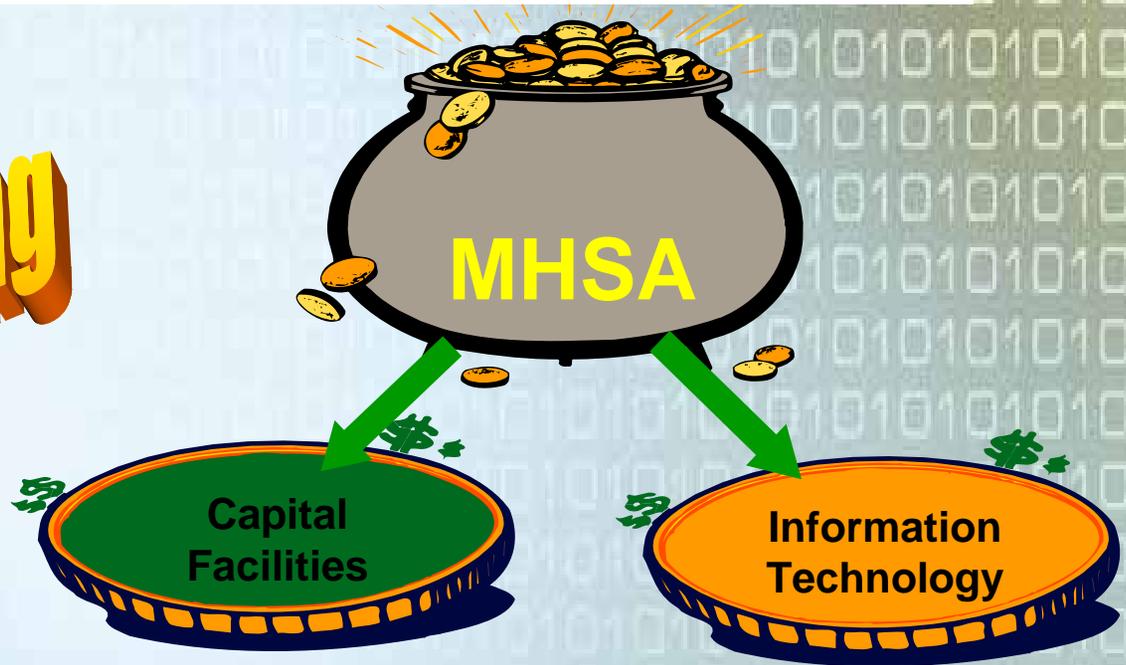
- **Accessible**
Americans with Disabilities Act (ADA) compliant

- **Available**
Access in public places
Access at service delivery sites or in housing
Access in remote/rural locations

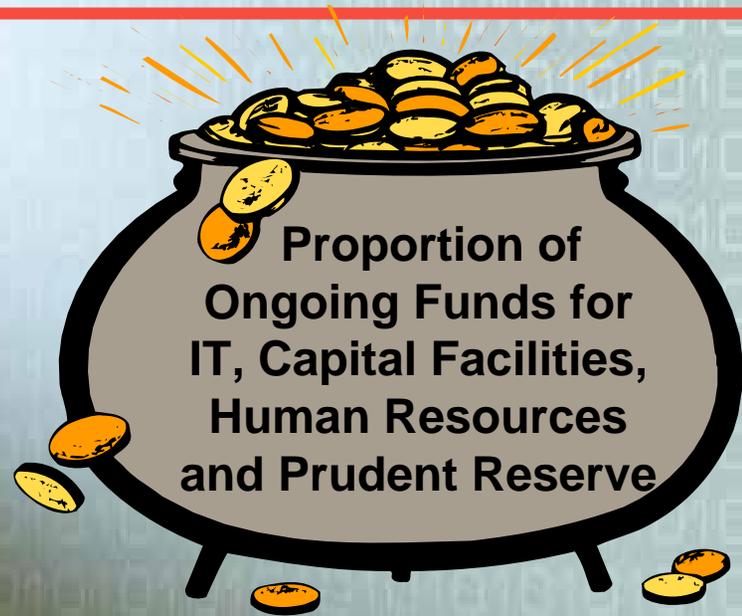
Navigating the MHSA IT Funding Request Process

Potential MHSA Funding for EHRs

Initial Funding



Ongoing Funding



Potential Ongoing MHSA Funds for EHRs / EMHIS

Potential Ongoing Funding: (MHSA Excerpt)

- (b) In any year after 2007-08, programs for services pursuant to Parts 3 and 4 may include funds for technological needs and capital facilities, human resource needs, and a prudent reserve to ensure services do not have to be significantly reduced in years in which revenues are below the average of previous years. The total allocation for purposes authorized by this subdivision shall not exceed 20% of the average amount of funds allocated to that county for the previous five years pursuant to this Section.



+



Requesting MHSA CSS Funds for Information Technology

DMH Letters 05-06 and 06-03

Other One-Time Community Services and Supports Funding

Types of activities allowable for other one-time CSS funding include capital purchases, training and education, the cost of **improving the functionality of information systems** used to collect and report client information, and one time service costs, such as one-time intensive outreach. Capital purchases may include the cost of vehicles, the **costs of equipping new employees with all necessary technology (cellular telephones, computer hardware and software, etc.)**, the cost of enhanced and/or increased space needs related to services proposed under the CSS Program and Expenditure Plan, or the cost of capitalizing rent subsidies.

- IT system development projects are allowable expenses only under Other One-Time CSS Funding.
- Funding requests for proposed IT software expenditure must include the ***MHSA IT Funding Request Form***.

The background of the slide features a light blue gradient with a pattern of faint, glowing binary code (0s and 1s) scattered across it. A dark blue horizontal banner is positioned in the center, containing the main title in white text. The text is centered and uses a bold, sans-serif font.

**Client, Family Member, County
and Other Stakeholder Perspectives**