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**(DISTRIBUTION COPY)
CONNECTING
COMMUNITIES
FOR BETTER HEALTH**

**Request for Proposal
Response**

Submitted to

**Foundation for e-health initiative
February 17, 2004**

This information was submitted into an electronic application and has been replicated as a word document. Standard forms and fiscal information submitted with this application are omitted from this copy. A complete original is on file at the Center for Healthy Communities and can be accessed by contacting Katherine Cauley, Ph.D. at the above listed address.

1) Write an executive summary of the proposed Health Information Exchange (HIE) project, describing specifically how the project advances the overall goals of the Connecting Communities for Better Health Program.

The overall goal of the Connecting Communities For Better Health (CCBH) Program is to advance quality, safety and efficiency of health care through the use of information technology and Health Information Exchange (HIE). In response the HealthLink Miami Valley (HLMV) collaboration proposes expansion of a county-wide HIE to demonstrate the viability of HIE across service sectors to improve health outcomes “spurring movement toward an interconnected, electronic national health infrastructure. Specifically, the management information system (MIS) that supports the HLMV HIE which we call HURDS (health uninsured registry data system) will be strengthened and expanded to include an electronically populated central repository of demographic and services utilization data for health uninsured, an electronically populated and submitted Medicaid application and an electronically shared outpatient electronic health record (OEHR). HealthLink Miami Valley recognizes that successful implementation of HIE belongs at the nexus where interorganizational cooperation meets technology and law. The expanded HIE will model an urban interorganizational collaborative and will establish a prototype business agreement which formalizes the legal basis for electronic exchange of health information in the public health sector. This public sector replicable model will be built on best practices, will include interoperability functions and HL7 standards, and will use a fully HIPAA compliant, web based system accessed through a Cisco VPN client, and located on a SQL server at Wright State University/School of Medicine (WSU/SOM).

HLMV is a multi-stakeholder collaborative with a four-year history of interorganizational cooperation administered by the Center for Healthy Communities (CHC) at WSU/SOM. The goal of HLMV has been to develop an effective community response to the problem of health uninsured in Montgomery County. Located in southwestern Ohio, Montgomery County’s (population 559,000) center is Dayton, and 15% of county residents have no health insurance. In March of 2000, representatives from the thirteen major public health stakeholder groups including hospitals, the hospital association, the health department, local colleges, the community foundation, county government, minority health care provider organizations (2), the Medicaid managed care organization, the Chamber of Commerce, the Alcohol Drug and Mental Health Board and other safety net organizations became founding members of HLMV. These 13 organizations remain involved on the HLMV Network, which functions as a board of directors for the larger collaborative, and with the addition of 14 new members, the Network now includes 27 organizations. In addition to this core group over 75 organizations sit on the HLMV Advisory Council representing, in total, close to 90% of all safety net providers in the county. Please see Attachment 1 for a full roster of HLMV members demonstrating compliance with CCBH evaluation criteria.

The governing structure of the collaborative includes the HLMV Network, which has an executive committee, the Management Team, comprised of the chairpersons of the project work groups. These work groups include the MIS, Outreach, Outcomes and Evaluation, and Strategic Planning Task Forces. One of the first actions of the group was to establish a public web site (www.med.wright.edu/healthlink/) where all activities of the project are documented. Open

communication and shared leadership are further enhanced through regularly scheduled meetings of the project work groups, standing meeting agendas, routine documentation through minutes of all meetings and rotating meeting facilitation responsibilities. Decisions are made by consensus and all members have veto power. Staff leadership through the Center for Healthy Communities (CHC) at Wright State University and partner organizations has remained constant throughout the four years of the project.

To date the HLMV collaborative has developed HURDS, which currently houses demographic and service utilization data for over 12,000 health uninsured members of the community. This electronic registry is supported by a network of “Portal agencies” that identify and refer health uninsured to HLMV. Community Health Advocates (CHAs) contact those referred and assist in linking patients to existing services. Initially Portal Agencies referred patients to the central registry for assistance using a paper based system. Portal Agencies are now preparing to enroll clients/patients electronically. In addition to demographic, access and utilization data, HLMV Network members have identified the need to include an outpatient electronic health record (OEHR) as a part of HURDS and the expanded HIE. Information as basic as allergies, immunizations, and general diagnosis are critically needed from multiple access points including public schools clinics, public health department clinics and the local hospital based homeless clinic, which is also a Federally Qualified Health Center. Additionally, HLMV partners including the physician practice serving the emergency department at the children’s hospital, an HIV/AIDS primary care practice, and a human services organization that coordinates a pharmacy benefits management program for over twenty health and human services organizations are interested in using portions of the HURDS OEHR for their health uninsured patients. Of particular interest to most HLMV partner organizations is the ability to populate an electronic Medicaid application, which in turn can be submitted and tracked electronically from HURDS to the Montgomery County Job and Family Services for enrollment. All of these components of the expanded HIE proposed in the sections to follow are designed to increase among providers use and support of the HIE and the OEHR as a tool to improve coordination and quality of care in the Dayton community.

The HLMV HIE is designed to be a self-sustaining community rated service. The business model is based on a subscription model for user interface and a utility model for customization services. In addition to the anticipated support from health and human services organizations using HURDS instead of developing their own HIPAA compliant systems, HURDS will serve as the primary database for the HealthLink Health Plan (HHP) currently under development to provide a basic primary care package for health uninsured in Montgomery County, Ohio with household incomes up to 200% of the federal poverty guidelines. HLMV partner agencies are concerned about the infrastructure costs and the general disruption to operations perceived to accompany a shift to electronic data collection, storage, management and exchange. HURDS and the expanded HLMV HIE will be available to support the management information system (MIS) needs of health and human services organizations and provide a HIPAA compliant, secure, comprehensive, standards based system for electronic collection, storage, management and exchange of patient health related information. The basic functionalities that we have in the system now, the demographics and soon the ability to populate a Medicaid application electronically, are attractive to most health and human service providers. As we have introduced

HURDS to the community we have emphasized its multiple capabilities: housing the patient registry for health uninsured, serving as a hosting platform for an organization's MIS needs related to electronic health data, and providing a central repository for a community-wide shared data set. Many agencies have already expressed an interest in the virtual private network (VPN) connectivity mechanism, which can currently support 1,500 concurrent users. In the long term we anticipate fiscal support of HURDS and the HIE through 70% subscriptions, 20% state and local grants and contracts and 10% consulting fees.

The applicant agency for the CCBH award, the Center for Healthy Communities (CHC) www.med.wright.edu/CHC/ is a nationally recognized community academic partnership (American Academy of Medical Colleges Community Partnership Award, Community Campus Partnerships for Health National Award) committed to improving the health of the community and health professions education. Housed in the Department of Community Health, Wright State University (WSU) School of Medicine, CHC is funded by federal, state and private grants with an annual budget of \$1.2 million dollars. CHC's 24 member staff work in concert with the Dayton community to convene community-wide collaborations, conduct systems level research, improve public health policy, provide technical assistance and program evaluation support, and develop faculty curricular training across a six state region. CHC provides a neutral forum for ongoing, community-wide dialogue, analysis and change related to the health care services delivery and financing systems of the Dayton, Ohio community, and the State of Ohio. CHC will provide the core staff for the HLMV expanded HIE.

2) In the RFC, we asked you to describe the HIE business model, the process and methods by which the financial contributions of stakeholders would be defined and facilitated, the sources of both upfront and ongoing funding, and plans for sustaining the project, once the contract funds were expended. Please further elaborate on your responses to these questions, below. In your response, outline specifically the status of commitments for both up-front funding and ongoing financial support. Describe key milestones so that reviewers will understand what will be accomplished during the contract period (through 2/28/05). Attach to the proposal, letters of commitment and support where appropriate and send to: connectingcommunities@foundationforehealth.org.

The initial fiscal investment for the HealthLink Miami Valley Health Information Exchange (HLMV HIE) was provided in 2001 through a Health Resources and Services Administration (HRSA) Community Access Program (CAP) grant. Coupled with ongoing support and infrastructure from Wright State University School of Medicine (WSU/SOM) and the Center for Healthy Communities (CHC), HLMV has established an HIE which serves as a patient registry of health uninsured populated by referrals and accompanying demographic data from health and human service organizations in Montgomery County. The HLMV HIE through HURDS (Health Uninsured Registry Data System) is designed to be a self-sustaining, public sector, community rated service. The operation of HURDS, the management information system (MIS) infrastructure that supports the HLMV HIE, is based on a subscription model for user interface and a utility model for legacy data and customization. The subscription service will require a one time start up fee and an annual subscription fee will be charged to support general administrative, upgrading and development costs. Development and maintenance of basic commonly used

system functionalities are the responsibility of HURDS staff and are included in subscription costs. All systems programming will be done by HURDS staff with the assistance of information technology (IT) staff from participating organizations. Participating organizations will be charged at cost for HURDS staff time related to any customized programming done specifically for their organization, including importing legacy data. The pricing structure will reflect 100% support for staff and system maintenance and provide a small reserve. Market satisfaction will be assessed on a regular basis and market development plans to expand to additional provider organizations will be ongoing.

To date over \$200,000 have been invested in the MIS infrastructure of the HURDS primarily from the HRSA grant and the Wright State University School of Medicine. In-kind support in excess of \$500,000 has been provided through contributions of time, meeting space, materials, staff resources, marketing and technical assistance by HLMV partner organizations. In the short term, over the next three years, direct support for HURDS is anticipated through federal grants 60%, state and local government 20%, and subscriber/user fees 20%. In the longer term, once Connecting Community for Better Health (CCBH) funds have been expended, direct support for HURDS will come through subscriber/user fees 70%, state/local government 20%, consulting 10%.

Through a community-wide audit of health and human services organizations to determine current status of the use of electronic data collection, storage, management and exchange (also described in question #4) we learned that although several health and human services organizations use electronic billing services, few routinely use electronic systems for patient/client health related information management. Of those who do, smaller organizations typically have Microsoft® Access databases developed by staff for the purposes of generating reports summarizing client/patient demographics, and general in house services utilization required for funders or supervising agencies. Some organizations are using a combination of vendor and staff developed systems. Vendors are usually small consulting firms that provided customized designs. Larger organizations with extensive customization needs reported having difficulties with vendors understanding the functionalities needed by the organization and consequently incurring additional expense for multiple system revisions. The local Housing and Urban Development (HUD) Continuum of Care has purchased Service Point from Bowman Internet Systems. Service Point has extensive customization tools and is judged to be responsive to the data management needs of the organization, however, there have been difficulties importing and exporting batch data.

When queried about developing/purchasing/upgrading electronic data systems many organizations cited the high cost of installing the necessary hardware and software to maintain electronic records, concern about the complexities and costs of developing Health Information Portability and Accountability Act (HIPAA) compliant systems, and the general disruption to operations perceived to accompany a shift to electronic data collection, storage, management and exchange as barriers to moving forward. Many organizations do not have the resources to meet either physical security demands or the programming functionalities required. In response to the difficulties described above, HURDS and the expanded HLMV HIE will be available to support the MIS needs of health and human services organizations and provide a HIPAA compliant,

secure, comprehensive, standards based system for electronic collection, storage, management and exchange of patient health related information. Over the past several years HLMV has established a track record for responding to the MIS needs of health and human services organizations by providing extensive free training on the HIPAA Privacy Rule, convening and facilitating the community-wide MIS Task Force and specialty work groups as needed, and general education about the evolving health level 7 (HL7) standards and their application in new and developing systems.

The basic functionalities that we have in the system now, the demographics and soon the ability to populate a Medicaid application electronically, will be available to interested health and human service organizations at no cost for the balance of the time we have HRSA funding (through August 2004). This trial period will be used as a part of our marketing strategy to expose the broader community to the system. As we have introduced HURDS to the community we have emphasized its multiple capabilities: housing the patient registry for health uninsured, serving as a hosting platform for an organization's MIS needs related to electronic health data, and providing a central repository for a community-wide shared data set. Many agencies have already expressed an interest in the virtual private network (VPN) connectivity mechanism that can currently support 1,500 concurrent users. One of the primary customers anticipated for the HURDS system and the expanded HIE is the HealthLink Health Plan (HHP). This plan, developed by HLMV, has received widespread local support and is in the process of being brokered through the State of Ohio Department of Job and Family Services Office of Medicaid. HLMV has hired a nationally recognized consulting firm to help establish changes to the State Medicaid plan to fund the HHP which would expand access to primary health care services to households earning up to 200% of the Federal Poverty Guidelines. Though this would be the first such program in Ohio, twenty-nine other states have been successful in using similar strategies to expand health care services for the uninsured. Funding for the HHP is not anticipated until 2007.

Funding from the CCBH will provide the necessary bridge to move from the present to the future for the HLMV HIE and the HURDS. A combination of HRSA and CCBH funding, support from Wright State University and the in-kind contributions of the HLMV partner organizations will provide the necessary support to continue the development of the HIE and HURDS as described above in question #1. Over the next three to four years, we will be enrolling additional subscribers on HURDS and developing the outpatient electronic health record (OEHR) component of the HIE. All of these mechanisms are seen as sources for long term sustainability and institutionalization. Ongoing stakeholder involvement will include maintaining the structure of HLMV to provide administrative leadership and support for the HIE, and ongoing administrative and professional staff involvement from each of the participating organizations. Please see Attachment 2 for the Project Management Milestones and Metrics chart. Please see Attachment 3 for letters of commitment from partner organizations.

3) In the RFC, we asked you to describe the technical approach of your project, including the proposed technical model (architecture and application), approach for linkage of data related to patients, and the use of standards. Please further elaborate on your responses to those questions, providing more detail, including key milestones, activities and diagrams, as appropriate. Also describe specifically how aspects of your approach and the results of your project will support Program goals of replicability, sustainability and scalability of technical solutions employed.

Describe key milestones so that reviewers will understand what will be accomplished during the contract period (through 2/28/05).

Overview

The model is based on the Microsoft Systems Architecture Version 2.0. Details can be found at <http://www.microsoft.com/windowsserver2003/msa/>. We have also taken into consideration also other industry accepted best practices for the design and development of the HURDS system in order to support its replicability, sustainability and scalability. Among its key characteristics are:

- Cross-browser support for Netscape and Internet Explorer
- Mobile device support for WAP/WML and Pocket Browser devices
- Clean code/html content separation using server controls
- Pages that are constructed from dynamically-loaded user controls
- Configurable output caching of portal page regions
- Multi-tier application architecture
- ADO.NET data access using SQL stored procedures
- Data content tracking and logging
- XML serialization and schema support
- SOAP support
- SMTP and POP3 email support
- Windows authentication - username/password in Active DS or NT SAM
- Forms authentication using a database for usernames/passwords
- Role-based security to control user access to portal content
- IIS 5.0 and SQL Server 2000 Applications
- Windows 2000 Advanced Server Operating System
- System tape backup with remote storage of tapes
- Cisco Systems VPN encryption for secure connections
- HIPAA compliance
- SNOMED CT integration
- HL7 version 3 standards compliance

In this section we elaborate on the proposed technical model (architecture and application), approach for linkage of data related to patients, and the use of standards.

Technical Model

Architecture

The system has been designed to conform to scalable multi-tier application architecture. It is intended to begin operations with the minimum hardware configuration inside design parameters. Figure Q3-1 is a simplified representation of the network architecture of the HURDS system. The School of Medicine Network Services is hosting the system at Wright State University. HURDS resides in its own core domain protected from the Internet by a series of firewalls. Regular users establish a link to the system using a Cisco Systems VPN connection. There is today an installed capacity of 1500 concurrent connections.

Inside the core domain, two servers run Windows 2000 Advanced Server: the core web server acting as the Primary Domain Controller, providing Active Directory services, Internet Information Services, and hosting the .Net framework; and the core database server runs SQL Server 2000 as the database server. Outside the the core domain, the perimeter application server acts as the public web, database, and email server.

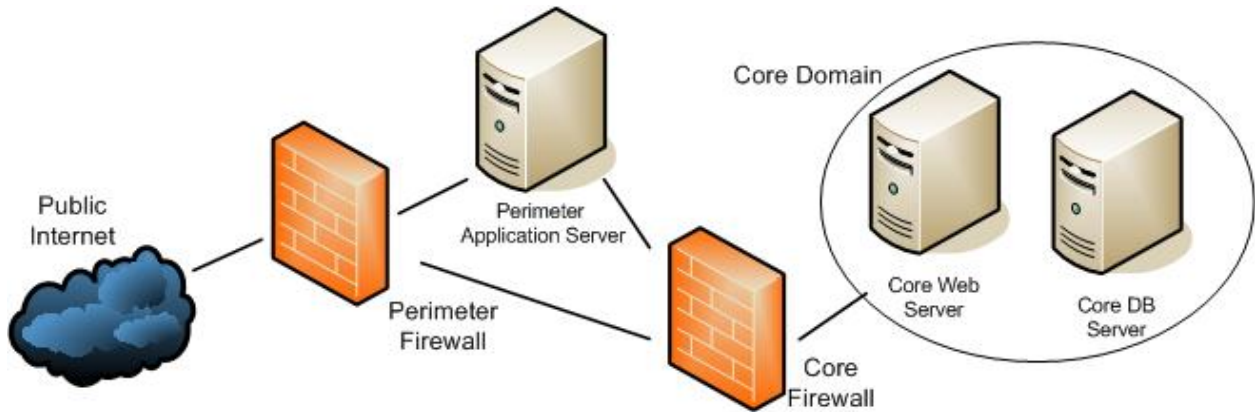


Figure Q3-1 Simplified Network Architecture.

As the project progresses, the network architecture will evolve with the addition of servers allowing specialization and clustering of services as demand requires. Figure Q3-2 represents the expected configuration of the network architecture by the end of year 2006.

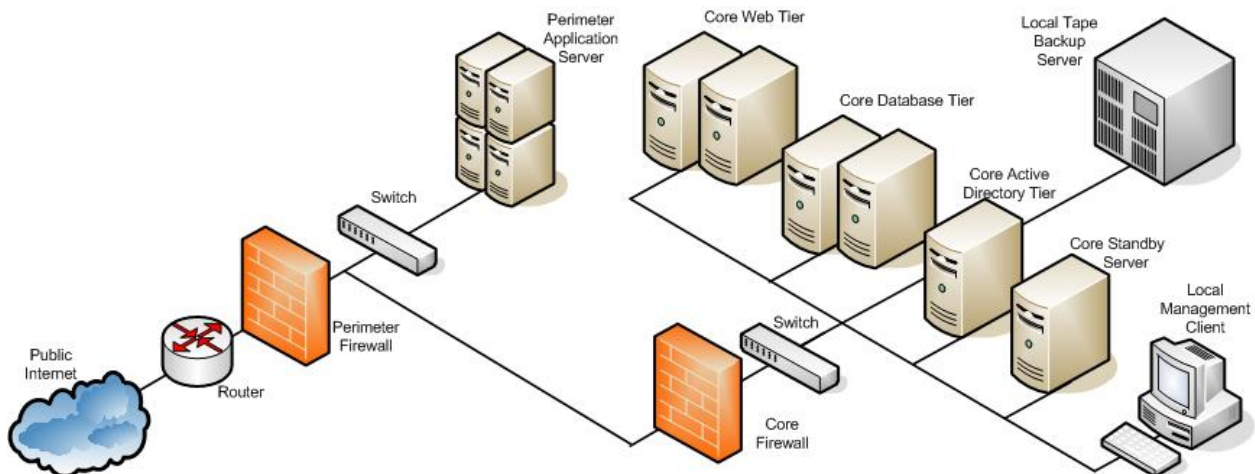


Figure Q3-2 Expected Network Architecture.

Application

The HURDS system application follows a web portal model. The portal contains two data sources. The configuration settings are stored in an XML file and the content for the application is stored in a SQL Server database. The data access is provided through a Microsoft .NET assembly that provides access to the data source via stored procedures. The portal framework is built through the use of a number of assemblies that handle the security and configuration of the

portal. Web Forms and user controls make up the presentation layer and handle the display and management of the portal data for the user. Web and Windows Services handle system-to-system data transfer requests using XML files and templates. The portal also supports sending and receiving email messages through SMTP and POP3 protocols respectively.

Portal Configuration

The schema based on the configuration XML file contains all the configuration settings for the HURDS Portal. The XML Configuration file stores all the high level Portal, Tab and Module Definitions. The configuration settings are stored in a cache so that the xml configuration file is read only if the settings have changed.

Database

All of the content for the portal is stored in a SQL Server database. This allows server administrators to farm the front-end of the portal across a number of servers each pulling from a single unique data store. All data tables in the portal have been designed to support source and time stamps, as well as associated log tables to audit changes and access operations. This is achieved through a combination of database functions, triggers and stored procedures.

Stored Procedures

The portal uses stored procedures to encapsulate all of the database queries. Stored procedures provide a clean separation between the database and the middle-tier data access layer. This in turn provides easier maintenance, since changes to the database schema will be invisible to the data access components. Using stored procedures also provide performance and security benefits.

The Portal Framework

The portal contains an extensible framework that allows users to build and use individual portal modules to handle the display and management of data. The following paragraphs will cover the basics.

Portal Settings

The portal settings are represented by the PortalSettings Class, which is defined in the Configuration business component. Once stored in the Context object, these settings can be obtained from anywhere in the application including all pages, components, and controls by accessing the Context item.

Portal Tabs

The Tabs are security zones and are stored in two public fields of the PortalSettings object mentioned above. The display of the tabs (as shown in Figure Q3-3 below) is handled by a user control.



Figure Q3-3 Portal Tabs.

Portal Modules

Portal Modules provide the actual content of the Portal. The modules are user controls that inherit the PortalModuleControl base class, which provides the necessary communication between the modules and the underlying Portal Framework. The portal includes modules for the main functions of data entry, reporting, and administration, as well for community interaction allowing posting of announcements, events, discussions, etc., security at the module level, control viewing, editing, and other rights.

Extending the HURDS Portal

The portal was built with the idea of extensibility in mind, providing a way for developers to easily add portal modules that can “plug” into the framework. Modules have already been created for a varied range of functions, including data entry of demographic data, production of reports, monitoring use of the system, etc.

Administering the HURDS Portal

The portal has an online administration tool that allows users in the “Admins” role to manage the security, layout, and content of the portal. Users that are logged in and belong to the “Admins” role will see an “Admin” tab that takes them to the administration tool.

Portal Security

The security design in the portal makes use of both authentication and authorization. Authentication is the process in which the application verifies a user’s identity and credentials. Authorization will actually verify the authenticated user’s permissions for a requested resource. The portal supports both forms based and windows based authentication. The authentication mode is configurable. Forms based authentication stores the usernames and passwords in the database and the Windows authentication uses a domain/active directory with the NTLM challenge/response protocol. The authorization for the portal is handled using role based security to determine whether or not a user has access to a particular resource. Users are grouped into various roles (admins, power users, devs, etc.) and the role mappings are stored in the database. The tabs and modules in the portal maintain access control lists (ACL) to determine who has permission to access the control. This prevents a normal user from accessing the administration functionality.

Linkage of Patient Data

Patient data will be stored in the central database according to security, privacy, and schema standards adopted. The data will be entered and accessed using the different interfaces explained above and in the “Use of Standards” paragraphs.

Use of Standards

HIPAA Compliance

Since the early stages of the HURDS system, HIPAA recommendations pertaining to privacy and security concerns in relation to IT were adopted as best practices and have been featured

throughout its design and implementation. Data encryption, secure connections, system backup, policies and procedures, inter-agency agreements are some of the provisions adopted.

UMLS and SNOMED CT integration

The HURDS system will integrate through agreements with the National Library of Medicine, the use of its Unified Medical Language System® (UMLS) Metathesaurus®, which now includes SNOMED Clinical Terms®. The use of the UMLS represents an enhancement to the HURDS system aiding its extension into the area of electronic medical records.

Health Level 7

The use of XML object serialization and support of XML schema can be used to interface data from different systems that support the XML standard. The HURDS system can also adapt a larger, industry-standard schema to the needs of a specific kind of industry form to ensure interoperability not only among company records across several platforms and applications, but also to provide reliable, controllable, business-to-business data exchange.

Conclusion

The HURDS system supports the Program's goals of replicability, sustainability and scalability. Scalability is achieved by its multi-tier design both on the logical design as well as the physical implementation; Sustainability is achieved by adopting solid best practices in the design of the network infrastructure, GUI interface, and operations guidelines; and Replicability is achieved by combining popular latest software technologies, 100% open-source code, and the adoption of a deployment tier.

4) In the RFC, we asked you to describe the role of clinicians in your project. Please elaborate further on your responses, describing specifically how clinicians have played or will play a role in shaping the requirements of the project, developing its plans, and participating in its implementation and evaluation. Describe in detail your strategies for addressing one of the key barriers to many healthcare information technology projects—clinician adoption—and how the results or experiences of your project will help other communities achieve success in this area. Describe key milestones so that reviewers will understand what will be accomplished during the contract period (through 2/28/05).

Clinicians representing medicine, nursing, psychology, and social work have been an integral part of the HealthLink Miami Valley (HLMV) organization and leadership from the beginning: the co-project directors are an internal medicine physician and a psychologist; the overall facilitator of the HLMV Network is an internal medicine physician; a pediatrician and a master's prepared nurse chair the Evaluation and Outcomes Task Force; an internal medicine physician chairs the management information system (MIS) Task Force; a work group of physicians determined appropriate codes and standards to be adopted for the HealthLink Health Plan (HHP), and HLMV Management Team members are predominantly clinicians. HLMV's success is largely due to the clinician members of HLMV accurately articulating both the barriers and facilitating factors likely to be encountered as significant changes to the health care delivery system are promoted. For example as part of the initial data collection from health and human services providers through the Health Uninsured Registry Data System (HURDS) of the Health

Information Exchange (HIE) the project included disease management components in childhood asthma and adult hypertension. HLMV physicians facilitated clinician involvement that provided baseline data to develop appropriate interventions related to clinical research. Working with practice based research network leaders and hospital emergency department physicians we have identified access to demographic and eligibility data for uninsured patients, and the ability to populate and monitor electronic Medicaid applications as physician priorities. Working with a local HIV/AIDS provider we learned about the interest in physician driven research which prompted the development of an application to track and evaluate the relationship between viral suppression and certain drug therapies.

As HLMV has begun exploring the expansion of the HIE an MIS audit was conducted to determine the extent of adoption of electronic collection, storage, management and exchange of health related data. We discovered that of the six hospitals or hospital systems in the county three are using electronic health records (EHR) for inpatient services, and one of these also has some out-patient services documented and exchanged electronically (Wright Patterson Air Force Base Hospital, the Dayton Heart Hospital, and the Veterans Administration Hospital). In the public health department adoption of electronic data management is sporadic and dependent upon program requirements, and none of the eight community health centers are electronically integrated. The Wright State University School of Medicine University Medical Services Association (UMSA) has recently begun using an electronic billing system across twelve outpatient facilities. In interviews with UMSA physicians there was wide spread support of the billing system, however interest in an EHR ranged from highly enthusiastic to adamantly opposed. Concerns included difficulty in developing consensus around what should be included to concerns about the difficulty of accurately capturing unique patient characteristics and the subsequent impact on clinical decisions about treatment protocols. A large private physician practice has recently contracted with a vendor to develop an EHR. The medical director there reports a high degree of skepticism regarding the success of this endeavor beyond limited templates for standard data, and is extremely concerned about the cost and anticipated disruption in practice. Pediatricians with whom we spoke were concerned about the imposition of the computer monitor in the physician patient interaction. Although wide spread use of electronic records for billing and scheduling are in use throughout the community, current use and readiness for adoption of the EHR are sporadic.

Against this backdrop HLMV has consistently used a strategy of partnering with health and human services providers who see a benefit to their patient population of exploring the use of electronically collected, stored, managed, and exchanged patient health data. In considering clinical adoption strategies, HLMV has successfully used a strategy of incremental change. Health and human services providers must be able to see that use of the HURDS will reduce their workload, increase access to desired information, and improve quality of care. In response we have identified four levels of the proposed expanded HIE, the first of which is already underway. First, multiple provider groups are interested in accessing a central repository of data which will accurately reflect current Medicaid enrollment and/or health uninsured status. There are electronic resources available to providers to query commercial insurers about a patient's health insurance status, but for the public health sector information is not readily available. Initially using a paper based system, HLMV partners have become Portal Agencies enrolling

clients/patients in the HURDS that triggers a referral to Community Health Advocates who assist in accessing available services. Many of the Portal Agencies are preparing to enroll clients/patients electronically. For HURDS subscribers this will provide an electronic patient registry of health uninsured available in real time regarding individual clients/patients and available in aggregate regarding characteristics of this patient population. Second, with the expansion of the HIE, multiple provider organizations will be using HURDS to populate an electronic Medicaid application which in turn can be submitted and tracked electronically from HURDS to the Montgomery County Job and Family Services for enrollment. Third, three of the larger public sector provider organizations are willing to exchange a limited set of data for a discrete set of their patient population in anticipation of improving the quality of care for these patients, and this is where we will begin the development of the outpatient electronic health record (OEHR). The public health department, the public schools, and a local hospital through a Federally Qualified Health Center (which is the homeless clinic) are willing to store and exchange (with patient authorization) clinical information using HURDS. The physician practice serving the emergency department at the children's hospital, an HIV/AIDS primary care practice and a human services organization that coordinates a pharmacy benefits management program for over twenty health and human services organizations are interested in using portions of the HURDS OEHR for their health uninsured patients. Of specific concern to all six organizations are immunization records, allergies, medications, chronic illness diagnoses and monitoring use of services across provider organizations. Fourth, the public health department is willing to explore use of the HURDS as their electronic database for patient health records. In each of the four levels described above we will be working to increase among providers use and support of the OEHR as a tool to improve coordination and quality of care in the Dayton community.

Because the success of HURDS as both a clinical and research tool to improve quality of care is dependent upon the viability and adoption of the OEHR, the involvement of local and national experts is pivotal in identifying characteristics of available products related primarily to clinical utility and required functionalities. We will establish the Outpatient Electronic Health Record Advisory Group (OEHRAG) to include national consultants, representatives of local organizations already using an OEHR or EHR, and members of the existing HLMV MIS Task Force with an interest in employing OEHR/EHR. Please see Attachment 4 for a complete listing of the OEHRAG. Please see Attachment 3 for letters of support from national experts. The first applications envisioned for the OEHR will be for the providers identified above. Ongoing monitoring and evaluation of the initial utilization process will be conducted. All HLMV actual and potential users as described in the four levels of the proposed expanded HIE will complete a pre-test using the Computers in Medical Care survey, which we will adapt to be appropriate for both physician and non-physician health and human services providers (Cork and Detmer, 1998). The survey is included as Attachment 5. Clinicians who adopt HURDS and the OEHR will be asked to complete the survey as a posttest at the end of the first year of practice. Additionally, clinicians at the implementing locations will be invited to participate in a lunch and learn user group that will be structured to help staff articulate best practices and identify critical factors in expanding into other physician practices. Data collected from the pre and post-test surveys, the lunch and learn focus groups, the CME and medical student education programs reviewed below, and the ongoing overall evaluation of the HLMV HIE project will be compiled and disseminated through informal and formal networks locally to foster continued interest and

participation in the project. HLMV staff will develop abstracts for presentations at state and national professional association meetings and articles for publication in peer-reviewed journals. Finally, HLMV staff will enthusiastically participate in the CCBH Community Learning Network.

The Departments of Family Medicine and Community Health at the WSU/SOM will jointly develop and offer a CME course and medical student elective using information from the local evaluations described above and the national literature on the use of electronic health records. This curriculum will be reviewed and evaluated by the OEHRAG and will be widely disseminated.

Please see Attachment 2 for the Project Management Milestones and Metrics chart.

5) In the RFC, we asked you to describe patient or consumer involvement in the project. Please elaborate on your responses, specifically describing the role that patients or patient groups will play in aspects of the project, including but not limited to, shaping the requirements of the project, developing its plans, and participating in its implementation and evaluation. Describe key milestones so that reviewers will understand what will be accomplished during the contract period (through 2/28/05).

Consumers are a critical part of the proposed expansion of the Health Information Exchange (HIE) through the Health Uninsured Registry Data System (HURDS). Throughout the HealthLink Miami Valley (HLMV) project public forums have been held with consumer groups to provide education about resources available through the project, the impact of Health Information Portability and Accountability Act (HIPAA), and the importance of appropriate patient authorization for sharing health related data. Focus groups with consumer groups have been held to learn more about children with asthma and realistic methods to improve disease management. Many of the partner organizations in HLMV have consumer advisory groups who have been reviewing project progress and providing input as new components are developed. The Center for Healthy Communities (CHC) has a Community Advisory Board (CAB) whose members include representatives from most city neighborhoods, safety net organizations and educational institutions. The HLMV project is a standing agenda item for meetings of this group where project progress is regularly reviewed and input solicited for new developments. Members of the CAB then return to their constituent organizations to generate further feedback about proposed developments. As we move to expand the HIE the CAB will continue to serve a primary role in insuring consumer involvement, and HLMV will continue to hold public meetings as well as solicit feedback from partner organization consumer advisory groups. As part of CAB meetings, presentations will be made explaining the functions of HURDS, and the use of the outpatient electronic health record (OEHR). As Community Health Advocates continue to work with individual consumers to access available health care they will be gathering data related to the consumer's experiences.

As part of the expanded HIE HLMV will develop the OEHRCAG, (Outpatient Electronic Health Record Consumer Advisory Group) to assist in project implementation. Comprised primarily of consumers, the OEHRCAG will develop a strategic plan to promote community adoption of the

OEHR during the first year of the project. During the second year of the expanded HURDS project, the OEHR CAG will develop a white paper articulating consumer adoption issues. Please see Attachment 2 for the Project Management Milestones and Metrics chart.

6) Complete the attached budget form (located on the RFP log in page) and email to: ConnectingCommunities@foundationforehealth.org. Include a budget justification below for each line item in the attached budget form. (Up to 3000 characters with spaces-approx 1 page)

Program Management. The leadership team of HealthLink Miami Valley (HLMV) expanded health information exchange (HIE) will include Kate Cauley, Director of the Center for Healthy Communities as Principal Investigator and Project Director at a 50% effort, 30% requested, 20% cost shared (cs); David Little, Department of Family Medicine faculty as Co-Principal Investigator and Co-Project Director at a 40% effort, 20% requested and 20% cs; Mary Crimmins, Center for Healthy Communities Associate as Project Coordinator at a 100% effort, 50% requested and 50% cs; Greg Kojola, Network Manager for Wright State University School of Medicine as Systems Manager at a 5% effort, all cs; David Roberts, Wright State University Systems Analyst as MIS Analyst at a 100% effort, 50% requested and 50% cs; and TBN MIS Analyst at 100% effort, all requested. Project work groups will be led by existing HLMV Task Force Chairs, Kay Parent, for Outreach, Jack Pascoe and Carla Clasen, for Outcomes and Evaluation, Rudy Arnold and Mary Crimmins for MIS, and Richard Schuster and Pam Morris, for Strategic Planning, each at a 10% effort, all cs. Technical Support will be provided by Catrina Baker at a 50% effort, all requested.

National Consultants will include members of the Outpatient Electronic Health Record Advisory Group (OEHRAG) Don Mon, and Helene Guilfooy, all cs, and Health Management Associates who will work with the project at a \$10,000 level, all requested.

Other Direct Costs will include: funds for travel to support national dissemination of project success and participation in the Community Learning Network; funds to support meeting expenses including materials and renting communications equipment; funds to support basic office supplies; funds to support duplication of materials for use and distribution throughout the project; funds to support training programs in the use of the multiple components of the HIE; and funds to support computer charges associated with connectivity for the HIE.

Technology. Funds are requested to support the purchase of equipment that will improve redundancy and performance in disaster recovery including a backup VPN device, Microsoft ISA2004 Software for two processors, upgrade to Brightstor ArcServ v11, ten back up tapes, an additional rack for the new server, UPS and batteries for the new rack, electronic installation for the new rack, controllable power distribution units for each rack, software to track versions and changes of software, and mapping data for plotting data, one year subscription.

Indirect Costs, calculated at ten per cent of the total direct costs are requested. Wright State University will cost share the unrecovered indirect costs calculated at 18% of the direct costs and will cost share indirect costs calculated at 28% of the total cost share for the project. Please see Attachment 6 for copies of resumes for personnel included in the project.

7) One of the key components of the Connecting Community for Better Health Program is the “Community Learning Network”—a vehicle by which the Foundation for eHealth Initiative will widely disseminate and share the work of experts and the learnings, tools, and strategies employed by communities engaged in health information exchange (including those funded and not funded by the Program). Key challenge areas identified by many in this field include the following: organization and governance, funding and sustainability, clinician adoption and clinical process change, technical architecture and applications, privacy and security, and patient engagement. Please describe your plans to make some of the learnings, tools, and strategies that come out of your experiences in this project, available to other communities and key stakeholders through the Community Learning Network.

HealthLink Miami Valley (HLMV) and Center for Healthy Communities (CHC) staff have demonstrated leadership in disseminating information about their project nationally, statewide and locally. The CHC has multiple national networks of constituents through which the work of expanding the HLMV Health Information Exchange (HIE) and health uninsured registry data system (HURDS) will be informed and disseminated. For example, Kate Cauley, who serves as Director of the CHC and Project Director of HLMV and the proposed expanded HIE, currently serves on the Care in the Community sub-group of the EHR HL7 SIG. David Little, Co-Project Director of the proposed expanded HIE, serves as the Chair of the Primary Care Informatics Working Group of the American Medical Informatics Association. Don Mon, who has agreed to serve on the Outpatient Electronic Health Record Advisory Group (OEHRAG) of the expanded HIE, is the Vice President, Practice Leadership of the American Health Information Management Association. Helene Guilfooy, who has agreed to serve on the OEHRAG for the proposed expanded HIE, is a nationally recognized Health Information Portability and Accountability Act (HIPAA) consultant. Through continued dialogue with these national ongoing networks, HLMV and expanded HIE staff and partners will stay current on industry and standards development and these networks will provide opportunities to disseminate our work.

Additionally, projects administered through the CHC are part of national networks all working to improve access to and quality of care. For example, HLMV is one of 195 Community Access Program (CAP) projects funded through the Health Resources and Services Administration (HRSA) and CHC staff have provided technical assistance web casts for HRSA, and presented at national directors meeting for the initiative. The CHC is an Area Health Education Centers (AHEC) Program Office and connected to the network of AHEC programs throughout Ohio and through the National AHEC Organization, throughout the country. Dissemination of project success and lessons learned will be facilitated by CHC staff and HLMV partners who routinely present workshops and seminars about these and other projects at national professional association meetings including the American Public Health Association, the American Academy of Medical Colleges, the American Medical Informatics Association, the Health Information Medical Management Society, the Society for Teachers of Family Medicine, and the North American Primary Care Research Group. Specific components of the current and expanded HIE to be shared through the Community Learning Network of HIEs will be the strength and structure of the HLMV collaboration and the governance of the expanded HIE, and the demonstration of improved clinical outcomes resultant from HURDS and the HIE.

On the local level, the work of HLMV and the proposed expanded HIE through HURDS is already well known. HLMV members routinely inform their constituent organizations of the developments of the project. Project staff have recently completed a round of legislative briefings with all state and local elected officials. Project staff routinely conduct grand rounds at hospitals, work with the residency programs in the area, and present at local professional association meetings about the work of the collaborative. The Dayton community has long seen itself as an innovative, cooperative community. Dayton is home to the National Cash Register Corporation, Reynolds and Reynolds, Lexus Nexus and many other information based companies. HLMV staff has established links through the Dayton business community with the newly established Wright Center for Innovation in Advanced Data Management and Analysis which will further the research and commercialization of new technologies advancing the application of data management solutions in research, clinical medicine, retail, manufacturing, military operations and homeland security.

Not only will dissemination of the project outcomes be extensive, but all aspects of the work are of this project are in the public domain: an open source electronic data management system including, architecture, privacy and security, workflow, access, utilization, training and development components; a business plan and sustainability strategies based on a community rated, collaborative structure; processes and results from all research and implementation processes designed, tested and publicly available including the partnership survey, the clinical adoption research, continuing medical education and medical student elective curricula, and patient involvement. All aspects of the proposed expanded HIE through HLMV and HURDS are replicable and CHC and HLMV staff with extensive experience as trainers and facilitators can translate learning and best practices into presentations, seminars and articles for wide dissemination. Through these and other processes and strategies, HLMV HIE staff and partners will make available to other communities and key stakeholders through the Community Learning Network the learnings, tools, and strategies that come out of our experiences in this project.

8) Why is funding from Connecting Communities for Better Health important to advance your HIE project? How will you move your HIE project forward if you do not receive CCBH funding?

Connecting Communities for Better Health (CCBH) funding is important to preserve and promote the forward momentum of this project. In August 2004 federal funding through the Health Resources and Services Administration (HRSA) will end and with the lag anticipated in building a subscription system, ongoing support is critical. Without CCBH funding, the part of the health information exchange (HIE) that includes the registry of health uninsured through the health uninsured data registry system (HURDS) would continue but the expansion to include an electronically populated Medicaid application, and the development of an outpatient electronic health record (OEHR) for the public health sector would likely be delayed several years. Additionally, the opportunity, which exists now, to reduce independent development of multiple electronic systems across health and human services service sectors would be lost. The work of later years would be unnecessarily burdened with finding ways to establish interoperability among multiple disparate systems. HealthLink Miami Valley (HLMV) has encouraged the system wide education and learning that has poised the community of the cusp of technological adoption which can be better integrated and standardized from the beginning. There have been at

least three previous community-wide efforts to build and HIE. Delays in moving forward at this point would be seen as yet another tried and failed attempt to accomplish the goal. We are seeking well-considered, planned, generally accepted technological adoption of information technology to improve the quality, safety and efficiency of health care especially for the health uninsured, and the community is ready to take the next steps.

9) One of the key barriers to wider adoption of information technology in healthcare is the lack of awareness and understanding of the “value” of IT and health information exchange—particularly in terms of quality, safety, and efficiency. Please describe how your project will contribute to both the articulation and evaluation of the value proposition in one or more of these areas (quality, safety, and efficiency). Specifically outline the metrics you intend to collect and analyze to assess the value of your project implementation in these areas and the extent to which you will make this information available to the Foundation for eHealth Initiative and others with interests in IT and health information exchange. Describe key milestones so that reviewers will understand what will be accomplished during the contract period (through 2/28/05).

The literature is replete with studies articulating the value of electronic health record functionalities for quality, safety and efficiency. While the literature can inform perspective, immediate experience, particularly when major change is looming, is a more persuasive tool in demonstrating the value of a hoped for improvement in the status quo. In the Dayton community the safety, quality and efficiency of health care is seriously affected by the rising costs of health care, particularly when caring for the health uninsured. Uninsured individuals seldom seek preventative or primary care, accessing instead episodic emergent care in response to actual or perceived acute manifestation of disease and injury. This results in poor quality, expensive care. Public funds are used to subsidize primary care episodes in trauma rooms resulting in increased hospital costs for uncompensated care. This effect cascades across the health care system. Increased costs for uncompensated care result in increased costs for private health care. Employers concerned with cost effectiveness cannot afford to offer health care insurance and this in turn contributes to the growing numbers of health uninsured. These systems issues threaten the quality and safety of care for everyone.

The Agency for Healthcare Research and Quality (AHRQ) has clearly documented that electronic health records and auxiliary functionalities improve patient safety. In order to develop an outpatient electronic health record (OEHR) for the public health sector HealthLink Miami Valley (HLMV) has used a strategy of incremental change coupled with demonstrated improved outcomes. This approach, which has been the cornerstone of the HLMV Health Information Exchange (HIE) and HURDS (Health Uninsured Registry Data System) initiative thus far, has been combined with consensus building to foster gradual “ownership” by members of the HLMV work groups of all aspects of the project. HLMV members have worked together for four years, and this has created a synergistic culture of sharing and team achievement. There have been many successes that contribute directly to the quality of care and have a direct impact on clinical outcomes and efficiency. For example, the implementation of the basic patient registry function of HURDS has impacted clinical outcomes in three ways: 1) the outreach follow-up and referral functions provided to over 12,000 people produced increased enrollment in existing

public health primary care and prevention services (over 5,000 people enrolled in Medicaid), thus improving chronic disease management and reducing inappropriate use of emergent care services; 2) provider access to demographics and utilization data has enhanced coordination, integration and efficiency of safety net services (local hospitals saved 17,000,000 in uncompensated care costs); and 3) realistic data are available to the public health and human services sectors for more accurate planning and resource distribution. In another example, disease management of childhood asthma has been improved through an initial basic data collection through the Portal Agencies, which resulted in the creation of a community-wide asthma task force that developed an in-home protocol for treatment improvement. The expanded HIE will build on these successes further demonstrating the value of the a web based central repository for demographic and health services utilization data of the health uninsured, developing an electronically populated and submitted Medicaid application and developing an OEHR to improve coordination and quality of care in the public health sector.

Project evaluation will be both quantitative and qualitative and focused on process outcomes as well as the following goals and activities:

Goal 1. Improve quality, safety and efficiency of public health and indigent care through the use of information technology by establishing/expanding a community-wide health information exchange for health uninsured that includes demographic, service utilization and clinical information.

Goal 2. Strengthen the community-wide safety net by utilizing the health information exchange to improve health care service access and appropriate service utilization for the uninsured and to provide planning data to improve system efficiency.

Goal 3. Evaluate implementation/expansion of the health information exchange to articulate lessons learned for other communities and to provide a template for milestones and metrics for use in other health information exchanges.

Goal 4. Establish ongoing fiduciary support and institutionalization of the health information exchange through implementation of a successful business model.

Activity 1: Assure full functionality of the HURDS (Health Uninsured Registry Data System) database for demographic, referral and service utilization information.

Activity 2: Establish policies, procedures and business agreements for public health safety net provider organizations to assure functional and HIPAA compliance.

Activity 3: Maintain and expand membership of HealthLink Miami Valley to include expertise in health care informatics standards and best practices, consumer and clinician involvement.

Activity 4: Expand HURDS system interoperability to include submission of a fully electronic (paperless) Medicaid application with signature and verification to Montgomery County Job and Family Services.

Activity 5: Expand HURDS functionalities to include an electronic health record.

Activity 6: Conduct evaluation, research and planning activities that articulate lessons learned and recommend best practices.

Activity 7: Develop and implement a comprehensive business plan that identifies methods to procure sustainable funding.

Please see the Attachment 2 for the Project Management Milestones and Metrics chart.

Specific program evaluation will focus clinical adoption processes and practices related to the expanded HIE, viability of the OEHR, expanded disease management programs, demonstrated physician driven research, and effectiveness of preliminary efforts to use clinical and pharmaceutical reminders. General metrics associated with project milestones will include:

Year 1: Complete coding and debugging of the HURDS for identification of health uninsured, referral to outreach services and monitoring of services utilization capabilities. Insure VPN connections are functional, personnel are trained and routine report generation is accurate across identified partner organizations.

Year 2: Add an HL7 standards based outpatient electronic health record to the existing demographic and service utilization data on HURDS. The health record will include UMLS nomenclature. The selection of, or coding of an OEHR will be reviewed by the Outpatient Electronic Health Record Advisory Group for clinical appropriateness, ease of use, and robustness. Input from clinic physicians will be solicited and incorporated into this process. Train personnel in the capabilities of the expanded system.

Year 3: Insure that expanded HURDS is implemented across safety net providers including free, homeless, public health, and hospital outpatient clinics and emergency departments, social service organizations and public school health clinics. Identify ongoing funding for HURDS expansion.

Year 4 and beyond: Our focus in improving quality, safety and efficiency is in the public health arena and focuses on the ability to report disease and service utilization patterns in the uninsured population. Long term planning for HURDS includes some GIS functionality to be able to map public health sensitive disease occurrence.

Attachments submitted to CCBH:

ATTACHMENT

ATTACHMENT NUMBER

HLMV Membership List

1

Membership List

HIE Collaborative Membership

*Project Management Milestones and Metrics

2

Letters of Commitment

3

A. Pickoff, Chair Pediatrics WSU/SOM

P. Morris CareSource CEO

W. Bines, Health Commissioner

M. Sandberg, Dayton Public Schools

G. Sample, GDAHA

J. Barr, Samaritan Homeless Clinic

H. Guilfooy, HIPAA Consultant

R. Brandt, Health Care Interventions

D. Graves, MCJFS

D. Mon, AHIMA

K. Shanahan, Shelter Policy Board

J. Hale, Sunrise Center

J. North, UHS

OEHRAG Membership

4

Computers in Medical Care Survey

5

Resumes of Key Staff

6

Cauley, Clasen, Crimmins, Guilfooy, Little, Parent, Roberts

Technical Figures

7

Figure 3-1, 3-2 and 3-3

Required Forms

8

Budget (2)

Data Form

*Included in the Distribution Copy

GLOSSARY OF ACRONYMS

AHIMA	American Health Information Management Association
AHRQ	Agency for Health Care Research and Quality
AMIA	American Medical Informatics Association
CAP	Community Access Program
CCBH	Connecting Communities for Better Health
CHA	Community Health Advocate
CHC	Center for Healthy Communities
CS	Cost Shared
EHR	Electronic Health Record
FPG	Federal Poverty Guideline
FPL	Federal Poverty Level
FQHC	Federally Qualified Health Center
HCAP	Healthy Community Access Program
HHP	HealthLink Health Plan
HIE	Health Information Exchange
HIMSS	Healthcare Information and Management Systems Society
HIPAA	Health Insurance Portability and Accountability Act
	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
HIV/AIDS	
HL7	Health Level Seven
HLMV	HealthLink Miami Valley
HRSA	Health Resource Services Administration
HUD	Department of Housing and Urban Development
HURDS	Health Uninsured Registry Data System
IT	Information Technology
MCJFS	Montgomery County Job and Family Services
MIS	Management Information System
NHII	National Health Information Infrastructure
OEHR	Outpatient Electronic Health Record
OEHRAG	Outpatient Electronic Health Record Advisory Group
OEHRCAG	Outpatient Electronic Health Record Consumer Advisory Group
RFC	Request for Capabilities
RFP	Request for Proposals
SIG	Special Interest Group
SOM	School of Medicine
SQL	Structured Query Language
VPN	Virtual Private Network
WSU	Wright State University
WSU/SOM	Wright State University/School of Medicine

Health Information Exchange (HIE) PROJECT MANAGEMENT MILESTONES and METRICS

Activity 1: Assure full functionality of the HURDS (Health Uninsured Registry Data System) database for demographic, referral and service utilization information.

Goals	Milestones	Metrics	Responsibility
<ul style="list-style-type: none"> ▪ Improve quality, safety and efficiency of public health and indigent care through the use of information technology by establishing a community wide health information exchange for health uninsured that includes demographic, service utilization and clinical information. ▪ Strengthen the community-wide safety net by utilizing HIE to improve health service access and appropriate service utilization for the uninsured and to provide planning data to improve system efficiency. ▪ Evaluate implementation of the HIE to articulate lessons learned to other communities and to provide a template for milestones and metrics for use in other HIEs. ▪ Establish ongoing fiduciary support of the HIE through implementation of a successful business model. 	Demographic and referral information integrated into the database and accessible to authorized users by March 1, 2004.	Meets schedule parameters System down time User satisfaction	MIS Analyst
	Documentation of coding and procedures written by March 15, 2004.	Meets schedule parameters Meets industry standards	MIS Analyst Network Services Manager
	Training modules for electronic Portal agency referrals developed and tested by April 1, 2004.	Meets schedule parameters Trainee satisfaction Number of retraining sessions needed	MIS Analyst Technical Support Specialist
	Test connectivity through VPN for various types of sites and firewalls by April 15, 2004.	Connectivity maintained Transmission time within industry recommendations	MIS Analyst IT staff Portal agencies
	Referrals are submitted electronically from multiple Portal agencies by May 1, 2004.	Meets schedule parameters System down time User satisfaction	MIS Analyst Project Coordinator Outreach Task Force
	Reporting capacity accessible to authorized users with customization tools included by June 30, 2004.	Meets schedule parameters Number of special reports required from IT staff not in the original plan.	MIS Analyst Technical Support Specialist
	Add generic XML import schema for use with batch transmission of Portal Agency referrals and demographics by July 31, 2004.	Meets schedule parameters Meets industry standards	MIS Analyst Network Services Manager
	Pilot specific XML import with one Portal Agency by September 1, 2004.	Meets schedule parameters Portal agency IT staff satisfaction	MIS Analyst IT staff Portal agencies
	Add PDA functionalities to the system by September 30, 2004.	Meets schedule parameters Meets industry standards	MIS Analyst Network Services Manager
Add document scanning functionality by October 31, 2004.	Meets schedule parameters Meets industry standards	MIS Analyst Network Services Manager	

Health Information Exchange (HIE) PROJECT MANAGEMENT MILESTONES and METRICS

Activity 2: Establish policies, procedures and business agreements for safety net organizations to assure functional and HIPAA compliance.			
Goals	Milestones	Metrics	Responsibility
<ul style="list-style-type: none"> ▪ Improve quality, safety and efficiency of public health and indigent care through the use of information technology by establishing a community wide health information exchange for health uninsured that includes demographic, service utilization and clinical information. ▪ Strengthen the community-wide safety net by utilizing HIE to improve health service access and appropriate service utilization for the uninsured and to provide planning data to improve system efficiency. ▪ Evaluate implementation of the HIE to articulate lessons learned to other communities and to provide a template for milestones and metrics for use in other HIEs. ▪ Establish ongoing fiduciary support of the HIE through implementation of a successful business model. 	Staff review of draft policies and procedures for HURDS completed by March 1, 2004.	Meets schedule parameters Meets industry standards	Project Coordinator MIS Task Force Primary Investigator Primary Investigator
	Task Force and Network review and approval of policies March 15, 2004.	Meets schedule parameters Network members satisfaction	
	Develop a memorandum of understanding that governs use of HURDS non-clinical information including legal review by April 15, 2004.	Meets schedule parameters Legally review passed Portal agency satisfaction	Project Coordinator Primary Investigator Legal counsel
	Execute memorandum of agreement with all electronically submitting Portal agencies by April 30, 2004.	Meets schedule parameters Portal agency satisfaction	Project Coordinator Primary Investigator Portal agency Legal counsel
	Identify primary partnering agencies interested in using the OEHR by August 1, 2004.	Meets schedule parameters Network satisfaction Meets proposal requirements	Primary Investigator HLMV Network
	Notice of Privacy practices for the expanded HIE drafted and reviewed by legal counsel by August 15, 2004.	Meets schedule parameters Legally review passed OEHR organization satisfaction	Project Coordinator Primary Investigator Legal counsel
	Business agreement format for the expanded HIE selected and reviewed by legal counsel by August 15, 2004.	Meets schedule parameters Meets industry standards	Project Coordinator Primary Investigator Legal counsel
	Business agreements executed with OEHR piloting organizations by November 1, 2004.	Meets schedule parameters	Primary Investigator OEHR organization CEOs
Perform security risk analysis for HURDS and OEHR organizations by December 31, 2004.	Meets schedule parameters Meets industry standards	Project Coordinator Primary Investigator OEHRAG	
Repeat disaster recovery test by January 3, 2005.	Meets schedule parameters Meets industry standards	MIS Analyst Network Services Manager	

Health Information Exchange (HIE) PROJECT MANAGEMENT MILESTONES and METRICS

Activity 3: Maintain and expand HLMV's Network to include expertise in health care informatics standards and best practices, consumer and clinician involvement.			
Goals	Milestones	Metrics	Responsibility
<ul style="list-style-type: none"> ▪ Improve quality, safety and efficiency of public health and indigent care through the use of information technology by establishing a community wide health information exchange for health uninsured that includes demographic, service utilization and clinical information. ▪ Strengthen the community-wide safety net by utilizing HIE to improve health service access and appropriate service utilization for the uninsured and to provide planning data to improve system efficiency. ▪ Evaluate implementation of the HIE to articulate lessons learned to other communities and to provide a template for milestones and metrics for use in other HIEs. ▪ Establish ongoing fiduciary support of the HIE through implementation of a successful business model. 	Organize the OEHRAG Outpatient Electronic Health Record Advisory Group by April 1, 2004.	Meets schedule parameters Representative of experts & clinicians	Network Project Coordinator
	Organize the OEHCAG Outpatient Electronic Health Record Consumer Advisory Group by May 1, 2004.	Meets schedule parameters Representative of consumers	Network Project Coordinator
	Meet with clinicians at OEHR organizations by November 1, 2004.	Meets schedule parameters Percentage of clinicians present	OEHRAG Project Coordinator
	Identify target standards for adoption of OEHR content and functionalities in report form by December 1, 2004.	Meets schedule parameters Addresses current industry standards discussion	OEHRAG Project Coordinator
	Review workflows at OEHR organizations and present to OEHRAG by December 1, 2004.	Meets schedule parameters OEHRAG satisfaction	Project Coordinator Primary Investigator
	OEHCAG to develop a strategic plan to promote community adoption of the OEHR by December 31, 2004.	Meets schedule parameters Consumer satisfaction	OEHRAG Project Coordinator
	Identify areas of need, potential time savings and functional improvements to which clinicians attach importance and value by January 1, 2005.	Meets schedule parameters Clinician satisfaction	OEHRAG Project Coordinator MIS Analyst
	Present proposed OEHR to clinicians at OEHR organizations and other practices by February 1, 2005.	Meets schedule parameters Clinician satisfaction	Project Coordinator Primary Investigator MIS Analyst
	Compile feedback from clinicians to OEHRAG for review by March 1, 2005.	Meets schedule parameters Clinician satisfaction	Project Coordinator Primary Investigator OEHCAG
	Beta test OEHR by September 1, 2005.	Meets schedule parameters	
OEHCAG presents a white paper to the HLMV Network on consumer adoption issues by August 31, 2005.	Meets schedule parameters Consumer satisfaction	Project Coordinator Primary Investigator OEHCAG	

Health Information Exchange (HIE) PROJECT MANAGEMENT MILESTONES and METRICS

Activity 4: Expand HURDS system interoperability to include submission of a fully electronic (paperless) Medicaid application with signature and verification to Montgomery County Job and Family Services.			
Goals	Milestones	Metrics	Responsibility
<ul style="list-style-type: none"> ▪ Improve quality, safety and efficiency of public health and indigent care through the use of information technology by establishing a community wide health information exchange for health uninsured that includes demographic, service utilization and clinical information. ▪ Strengthen the community-wide safety net by utilizing HIE to improve health service access and appropriate service utilization for the uninsured and to provide planning data to improve system efficiency. ▪ Evaluate implementation of the HIE to articulate lessons learned to other communities and to provide a template for milestones and metrics for use in other HIEs. ▪ Establish ongoing fiduciary support of the HIE through implementation of a successful business model. 	<p>PDF Paper based Medicaid application available on HURDS and populated with information in the demographic profile by April 1, 2004.</p>	<p>Meets schedule parameters Client satisfaction</p>	<p>MIS Analyst</p>
	<p>Meet with MCJFS staff to develop a plan and timeline for implementing fully electronic submission by May 31, 2004.</p>	<p>Meets schedule parameters MCJFS administration satisfaction</p>	<p>Project Coordinator Primary Investigator MCJFS staff</p>
	<p>OEHRAG to convene a meeting of all interested parties on electronic signature submission by September 30, 2004.</p>	<p>Meets schedule parameters Attendees broadly representative Meets industry standards</p>	<p>OEHRAG Project Coordinator</p>
	<p>Identify a community wide standard for electronic signature across safety net organizations by December 31, 2004.</p>	<p>Meets schedule parameters Meets industry standards</p>	<p>Project Coordinator Primary Investigator Legal counsel</p>
	<p>Identify specific requirements of MCJFS electronic systems for XML schema to include scanned documents and electronic signatures by February 28, 2005.</p>	<p>Meets schedule parameters Number of repeat meetings with IT staff required to complete task</p>	<p>MIS Analyst Network Services Manager MCJFS IT staff</p>
	<p>Beta test electronic Medicaid application by June 30, 2005.</p>	<p>Meets schedule parameters</p>	<p>MIS Analyst</p>
	<p>Implement full electronic Medicaid application by September 30, 2005.</p>	<p>Meets schedule parameters</p>	<p>MIS Analyst Network Services Manager MCJFS IT staff</p>

Health Information Exchange (HIE) PROJECT MANAGEMENT MILESTONES and METRICS

Activity 5: Expand HURDS functionalities to include an electronic health record.			
Goals	Milestones	Metrics	Responsibility
<ul style="list-style-type: none"> ▪ Improve quality, safety and efficiency of public health and indigent care through the use of information technology by establishing a community wide health information exchange for health uninsured that includes demographic, service utilization and clinical information. ▪ Strengthen the community-wide safety net by utilizing HIE to improve health service access and appropriate service utilization for the uninsured and to provide planning data to improve system efficiency. ▪ Evaluate implementation of the HIE to articulate lessons learned to other communities and to provide a template for milestones and metrics for use in other HIEs. ▪ Establish ongoing fiduciary support of the HIE through implementation of a successful business model. 	<p>Review all available open source OEHR candidates for HL7 specified functionalities and HIPAA audit compliance by December 31, 2004.</p>	<p>Number of systems reviewed Meet schedule parameters</p>	<p>OEHRAG HLMV Network OEHR organization staff Project Coordinator</p>
	<p>Consult with expert OEHRAG members and other research sources to determine current pertinent standards discussions by February 28, 2005.</p>	<p>Meet schedule parameters Quality of document produced Members actively involved in the discussion</p>	<p>OEHRAG Project Coordinator MIS Analyst</p>
	<p>Consult with physicians on the HLMV Network and other organizations to comment on viable open source systems by May 1, 2005.</p>	<p>Number of physicians Quality of commentary</p>	<p>OEHR organization clinicians HLMV Network Project Coordinator MIS Analyst</p>
	<p>Determine whether to write new code, adopt an open source or purchase a vendor based system by September 30, 2005.</p>	<p>Quality of evaluation decision Meet schedule parameters OEHRAG satisfaction</p>	<p>OEHRAG HLMV Network</p>
	<p>Write code or purchase system for beta test by January 1, 2006.</p>	<p>Meet schedule parameters</p>	<p>Project Coordinator MIS Analyst</p>
	<p>Train all personnel by May 1, 2006.</p>	<p>Meet schedule parameters Trainees satisfaction</p>	<p>MIS Analyst Technical Support Specialist</p>
	<p>Revise and debugging of beta test completed by September 30, 2006.</p>	<p>Meet schedule parameters System down time</p>	<p>MIS Analyst Network Services Manager</p>
	<p>Launch application by December 31, 2006.</p>	<p>Meet schedule parameters</p>	<p>MIS Analyst Network Services Manager</p>

Health Information Exchange (HIE) PROJECT MANAGEMENT MILESTONES and METRICS

Activity 6: Conduct evaluation, research and planning activities that articulate lessons learned and recommend best practices.			
Goals	Milestones	Metrics	Responsibility
<ul style="list-style-type: none"> ▪ Improve quality, safety and efficiency of public health and indigent care through the use of information technology by establishing a community wide health information exchange for health uninsured that includes demographic, service utilization and clinical information. ▪ Strengthen the community-wide safety net by utilizing HIE to improve health service access and appropriate service utilization for the uninsured and to provide planning data to improve system efficiency. ▪ Evaluate implementation of the HIE to articulate lessons learned to other communities and to provide a template for milestones and metrics for use in other HIEs. ▪ Establish ongoing fiduciary support of the HIE through implementation of a successful business model. 	Evaluation and research plan developed by April 30, 2004.	Meet schedule parameters Quality of the plan	HLMV Network Outcomes/ Evaluation Task Force
	Administer computer use pretest to clinicians and staff by May 31, 2004.	Meet schedule parameters	Outcomes/ Evaluation Task Force
	Qualitative research design completed to evaluate governance, legal parameters, clinician adoption and selected topics by July 31, 2004.	Meet schedule parameters Quality of the design	Outcomes/ Evaluation Task Force HLMV Network
	Disease management protocols for selected topics established by October 1, 2004.	Meet schedule parameters Quality of the design	Outcomes/ Evaluation Task Force
	Process evaluation report for 6 months submitted to CCBH by October 31, 2004.	Meet schedule parameters Quality of the report	Outcomes/ Evaluation Task Force HLMV Network
	Evaluate clinical and pharmaceutical management quality software products and recommend selection by December 1, 2004.	Meet schedule parameters Quality of the report	Outcomes/ Evaluation Task Force OEHRAG HLMV Network
	IRB review of physician members research plans completed by December 31, 2004.	Meet schedule parameters Quality of the plan IRB satisfaction and approval	WSU IRB Outcomes/ Evaluation Task Force OEHR organization physicians
	Review other quality, safety, and efficiency processes that might be considered by June 30, 2005.	Meet schedule parameters Completeness of review	Outcomes/ Evaluation Task Force OEHRAG HLMV Network

Health Information Exchange (HIE) PROJECT MANAGEMENT MILESTONES and METRICS

Activity 7: Develop and implement a comprehensive business plan that identifies methods to procure sustainable funding.			
Goals	Milestones	Metrics	Responsibility
<ul style="list-style-type: none"> ▪ Improve quality, safety and efficiency of public health and indigent care through the use of information technology by establishing a community wide health information exchange for health uninsured that includes demographic, service utilization and clinical information. ▪ Strengthen the community-wide safety net by utilizing HIE to improve health service access and appropriate service utilization for the uninsured and to provide planning data to improve system efficiency. ▪ Evaluate implementation of the HIE to articulate lessons learned to other communities and to provide a template for milestones and metrics for use in other HIEs. ▪ Establish ongoing fiduciary support of the HIE through implementation of a successful business model. 	Expand business plan from proposal to formal comprehensive status, reviewed and accepted by the HLMV Network by October 31, 2004.	Meets schedule parameters Meets industry standards Evaluation by independent MBA	Project Coordinator Primary Investigator Strategic Planning Task Force
	Design and conduct market research with safety net organizations to evaluate hosting and data sharing needs by January 1, 2005.	Meets schedule parameters Meets industry standards	Strategic Planning Task Force Outcomes/Evaluation Task Force
	Revise business plan based on research and present to the HLMV Network by March 31, 2005.	Meets schedule parameters Meets industry standards	Project Coordinator Primary Investigator Strategic Planning Task Force
	Subscription agreements implemented by June 30, 2005.	Meets schedule parameters	Project Coordinator Primary Investigator Legal counsel
	HealthLink Health Plan receives funding through State established mechanisms by December 31, 2007.	Meets schedule parameters Funding adequacy	HLMV Network