

HealthLink Miami Valley
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**(DISTRIBUTION COPY)
TRANSFORMING HEALTHCARE
QUALITY THROUGH
INFORMATION TECHNOLOGY
(THQIT) PLANNING GRANT**

Request for Proposal

Response

Submitted to

National Institutes of Health

Agency for Healthcare Research and Quality

April 21, 2004

This information was submitted as part of a request for proposals to funders cited above. Standard forms, fiscal information and appendices 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.

HealthLink Miami Valley Transforming Healthcare Quality Through Information Technology (THQIT) Planning Grant

submitted to the Agency for Healthcare Research and Quality
by Wright State University Center for Healthy Communities

Research Plan

Section I. Partnerships

a) Existing partnership

HealthLink Miami Valley (HLMV), administered by the Center for Healthy Communities at Wright State University School of Medicine, is a multi-stakeholder community-wide collaborative with a four-year history of interorganizational cooperation. The goal of HLMV has been to develop an effective community-wide response to the problem of health uninsured in Montgomery County using strategies designed to strengthen the public health safety net through a comprehensive integrated system of care. Key components to this integrated system are improved care coordination and continuity of care using structured outreach and referral, and health information technology.

Like many communities, Dayton, Ohio is faced with ever-increasing health care costs due, in part, to the growing number of health uninsured residents. Uninsured individuals seldom seek preventative or primary care, accessing instead episodic emergency care from multiple providers in response to actual or perceived acute manifestation of disease and injury. Public funds are used to subsidize primary care episodes in trauma rooms, resulting in increased hospital costs due to uncompensated care. Increased unrecovered hospital costs contribute to the higher cost of health care through commercial insurers that in turn results in higher costs to employers, who are increasingly reducing and/or eliminating health benefits to employees, resulting in an increase in the number of health uninsured. Provider systems face ever escalating costs and many are approaching administrative gridlock in the wake of burgeoning paperwork and required compliance with the Health Insurance Portability and Accountability Act (HIPAA). These systemic issues threaten the quality and safety of care for everyone.

Five years ago a group of concerned physicians approached the Center for Healthy Communities (CHC) at Wright State University School of Medicine (WSU/SOM) to organize a community response to the problem of health uninsured. They had just witnessed the closure of one of the three largest hospitals in the community that housed an outpatient clinic where over 11,000 health uninsured individuals routinely sought medical care. The physician community had grave concerns about what to do with the paper health records of these patients. In the months and years that followed, a community-wide technology void was highlighted when it became clear that there was no way to track where these uninsured individuals went to receive care and thus no way to redirect the paper records. Emergency departments in the remaining hospitals reported anecdotally that patient visits were up, and a recent analysis demonstrated that in fact patients visits were up significantly, almost 9,000 per year in the three years

following the hospital closure. The cost of this hospital closure, the resultant distribution of patients, and duplication of administrative, diagnostic and treatment services has yet to be fully quantified. However, this experience put in sharp relief the need for better strategies to track and monitor use of services among the health uninsured. In response the HLMV collaborative began the work of developing a web based central data repository housing a patient registry of health uninsured, accompanying demographic and eligibility data, and self report data related to health and human services utilization. This resource has served as a tool to support targeted outreach and referral, identifying over 12,000 health uninsured and enrolling 40% of these into existing public health programs. In the aggregate, this database has the potential to be a source of data for care coordination, systems planning and more effective utilization of limited public resources for the health uninsured members of the community.

Organizational contributions and governance structure of the partnership

The problem presented by the health uninsured is systemic and requires concerted effort from multiple organizations. Great care was taken in building the HLMV collaborative. In March 2000, the CHC convened representatives from all major public health stakeholder groups including hospitals, the hospital association, the public health department, county government, minority health care provider organizations, the Medicaid managed care organization, the Alcohol Drug and Mental Health Services Board, Wright State University School of Medicine, a community foundation, the Chamber of Commerce, and other public health safety net organizations. These 13 founding member organizations remain involved on the HLMV Network, and with the addition of 14 new members, the HLMV 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 health and humans services safety net providers in Montgomery County.

The governing structure of the collaborative includes the HLMV Network, which serves as the board of directors for the organization, and the Management Team, comprised of the chairpersons of the task forces and project work groups, which serves as the executive committee. The task forces and work groups include the Management Information Systems (MIS), Outreach, Outcomes and Evaluation, and Strategic Planning Task Forces, and the HIPAA Exchange, Prescription Services Work Group, Outpatient Electronic Health Record Advisory Group, and HealthLink Health Plan Work Group. In order to facilitate open communication across such a broad collaborative effort and to encourage use of the Internet as a resource, HLMV established a public website on which all written communication documenting the work of the collaborative resides www.med.wright.edu/healthlink/. Open communication and shared leadership are further enhanced through regularly scheduled meetings of project workgroups, standing meeting agendas, routine documentation of work through minutes of all meetings, and rotating meeting facilitation responsibilities. Project leadership is decentralized and structure has been designed to fulfill function. Decisions are made by consensus and all members of the HLMV Network have veto power. The website houses the calendar of meetings for the year including monthly HLMV Management Team and Network meetings, monthly Outcomes and Evaluation Task Force and

Outreach Task Force meetings, bi-weekly MIS Task Force meetings, bi-monthly Strategic Planning Task Force meetings, quarterly Advisory Council meetings, and monthly Outpatient Electronic Health Record Advisory Group meetings. All project reports, surveys, and information on the HIE are also located on the HLMV website.

Staff leadership through the CHC and HLMV partner organizations has remained constant throughout the four years of the project. Richard Schuster, MD, and Director of the Division of Health Systems Management at WSU/SOM, serves as the Chair of the HLMV Network. Kate Cauley, PhD, and Director of the CHC, serves as Co-Project Director along with Rudolph Arnold, MD, and Executive Director of the Miami Valley Health Improvement Council. Dr. Arnold, Mary Crimmins, MA, Research Associate with the CHC, and Bill Bines, Montgomery County Health Commissioner, serve as Co-Chairs of the MIS Task Force. Jack Pascoe, MD, of the Department of Pediatrics at WSU/SOM and Carla Clasen, MPH, RN, Associate Director of the CHC, serve as the Co-Chairs of the Outcomes and Evaluation Task Force. Kay Parent, MPH, RN, Research Associate with the CHC, serves as the Chair of the Outreach Task Force assisted by Danetta Graves, Director of the Montgomery County Department of Job and Family Services. Dr. Schuster, Janet Grant, MS, Executive Vice President of CareSource (Medicaid Managed Care Organization), and Arthur Pickoff, MD, and Chair of the Department of Pediatrics at WSU/SOM, serve as the Co-Chairs of the Strategic Planning Task Force. Vicki Pegg, Montgomery County Commissioner, serves as the honorary chair of the Advisory Council. David Little, MD, of the Department of Family Medicine at WSU/SOM, serves as the Chair of the Outpatient Electronic Health Record Advisory Group.

Existing and ongoing project support and participation from all organizations involved in HLMV is evident through participation in the HLMV Network and Task Forces/Work Groups and community-wide interest and investment in project goals and activities. Data from a partnership survey developed by the New York Academy of Medicine and administered to HLMV Network members in January of 2002 and again in May of 2003, document the value of the collaborative to member organizations. For example, in May 2003, members reported: 1) they had more authority to commit organizational resources to the collaboration; 2) there were better working relationships between organizations; 3) there were more opportunities to express and resolve conflicts among members; and 4) there was increased satisfaction with success of the collaboration. HLMV has received fiscal support from a Health Resources Services Administration Community Access Program grant and over \$600,000 from in-kind support from project partners through contributions of time, meeting space, materials, staff resources and technical assistance. To date almost \$200,000 has been invested in health information technology (HIT) infrastructure to support the HIE, and the WSU/SOM Network Services provides ongoing support and maintenance of the technical infrastructure. All organizations that are members of HLMV are listed in Appendix A.

Building on this history of collaboration, the HealthLink Transforming Healthcare Quality Through Information Technology (THQIT) Planning Grant proposal intends to expand the scope of work of HLMV by adding an Interoperability Task Force (Planning

Committee) to the existing HLMV Network structure. Memoranda of Understanding outlining the added involvement of a subset of HLMV partners in this proposed expansion, along with letters of support from these HLMV partners are included in Appendix B. Additionally, letters of support from founding partners of HLMV, to historically document the strength of the HLMV collaborative, are included in Appendix C.

b) Existing infrastructure

The organization at the nexus of the HealthLink Miami Valley (HLMV) initiative is the Center for Healthy Communities (CHC) www.med.wright.edu/CHC/, a nationally recognized community-academic partnership (American Academy of Medical Colleges Community Partnership Award--1998, Community Campus Partnerships for Health National Award--2003), founded in 1989 and committed to improving the health of the community and health professions education. CHC is funded by federal, state and private grants and contracts with an annual budget of \$1.3 million dollars. CHC staff work in concert with the Dayton community to tackle systemic public health problems, research policy and practice issues, and provide technical assistance, program evaluation and continuing education for health professionals. In addition to HLMV the CHC has established and sustained multiple local, state and regional collaborations and facilitated project planning and implementation in response to community identified needs. The Center has earned a reputation among community and academic partners as an ethical organization with both neutrality and expertise (please see Appendix D for a summary of CHC projects). The CHC is fiscally housed as a Division in the Department of Community Health, Wright State University School of Medicine (WSU/SOM). Administratively, the CHC resides in the College of Nursing and Health, the Department of Social Work, and the Schools of Medicine and Professional Psychology at Wright State University, and in the Division of Allied Health technologies at Sinclair Community College, and the CHC Director reports to the Deans Advisory Board composed of deans from the above mentioned colleges, departments and schools. Additionally, the CHC is guided in program and policy decisions by the Community Advisory Board with representatives from health and human services agencies in the community, city and county government, faith-based organizations and public health, housing and education organizations in the greater Dayton area.

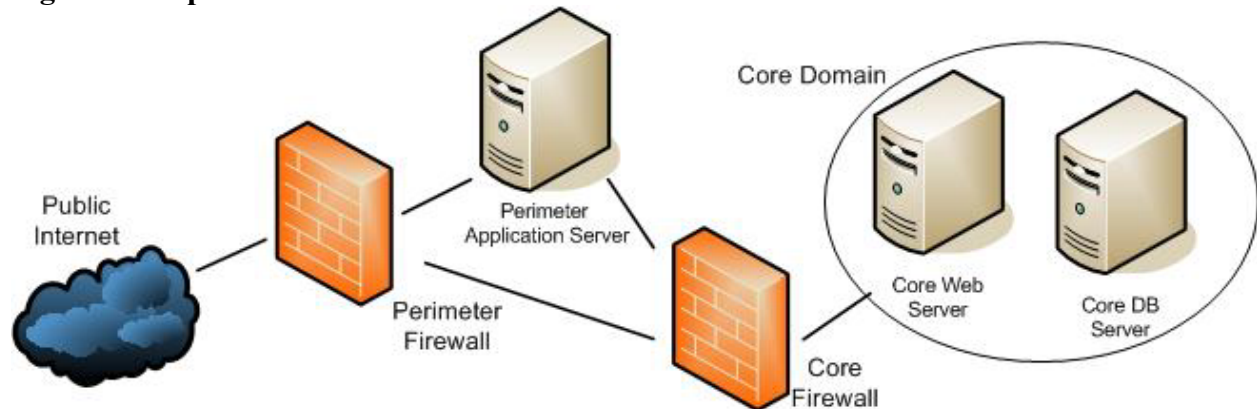
In 2001, the CHC was the successful applicant for a Health Resources Services Administration Community Access Program/Healthy Communities Access Program grant through which the HLMV project was initially funded. The Director of the CHC is also the Principal Investigator and Co-Project Director for the HLMV project. HealthLink Miami Valley, through the CHC, enjoys information technology support from the School of Medicine Network Services and legal, accounting, human resources, and facilities support from both the School of Medicine and Wright State University. With the foundation of the HLMV infrastructure described above and staff support from the CHC and the WSU/SOM, the Planning Committee for the THQIT project will be established as the HLMV Interoperability Task Force. The co-chairs of the Interoperability Task Force will report to the HLMV Management Team, as do all current HLMV Task Force Chairs.

Existing computer based information systems

To date, the HLMV collaborative has developed and has in use a computer based information system called the HealthLink Information Exchange (HIE). The system has been designed to conform to scalable multi-tier application architecture built to begin operations with the minimum hardware configuration inside design parameters. Figure 1 is a simplified representation of the network architecture of the HIE system. The School of Medicine Network Services is hosting the system at Wright State University. HIE 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 an installed capacity of 1500 concurrent connections. All of the content for the HIE is stored in a SQL Server database. All data tables in the HIE 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.

Inside the core domain, two servers run Windows 2000 Advanced Servers: 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 running the SQL Server 2000 as the database server. Outside the core domain, the perimeter application server acts as the public web, database, and email server.

Figure 1 Simplified Network Architecture



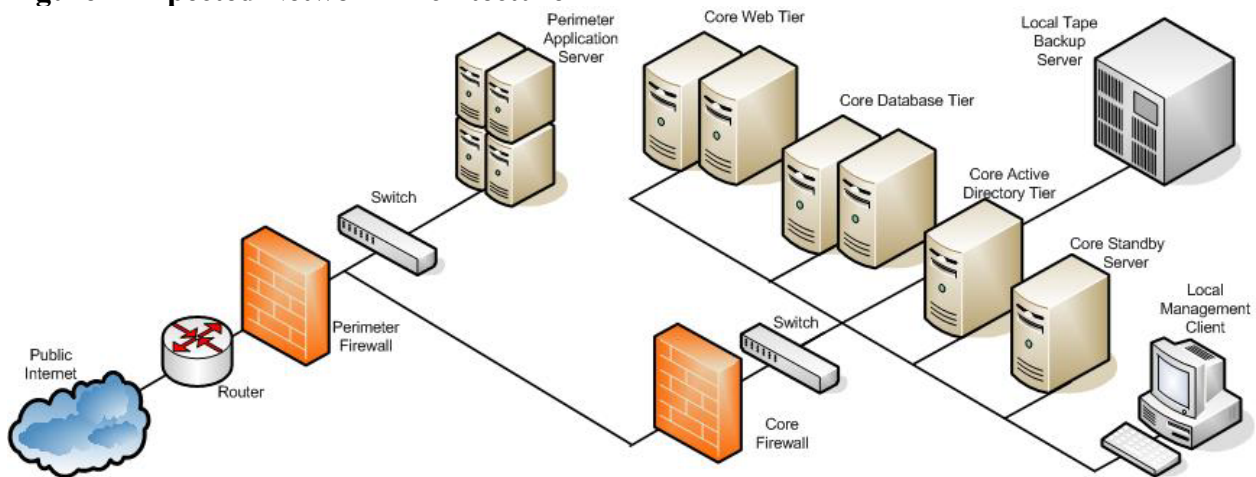
The HIE architecture is based on the Microsoft Systems Architecture Version 2.0. Details can be found at <http://www.microsoft.com/windowsserver2003/msa/>. Industry accepted best practices for the design and development of the HIE have been employed in order to support its replicability, sustainability 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 Privacy and Security rule compliance
- SNOMED CT integration (in planning)
- HL7 version 3 standards compliance (in planning)

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

Figure 2 Expected Network Architecture



Current and proposed partnership staff

All personnel involved in the HLMV collaborative leadership as described above will remain in place during the THQIT Planning Grant period. All are fiscally supported by their home institutions, each of which is a partner in the HLMV coalition. CHC staff that also have leadership responsibilities with the HLMV coalition are Wright State University employees fiscally supported by grants and contracts awarded for work which supports the mission of the CHC. Specific leadership for the HLMV THQIT Planning Grant within the structure of the existing HLMV coalition will include Kate Cauley as Principal Investigator and Co-Planning Director, Mary Crimmins as the Planning Director and Chair of the Planning Committee/Interoperability Task Force, assisted by a member of

the Planning Committee/Interoperability Task Force to be selected by the Planning Committee/Interoperability members, and Carla Lachecki as the Program Manager. All local and regional hospitals, outpatient clinics and physician practice groups and the public health department have been invited to join the Planning Committee/Interoperability Task Force. To date organizations interested in the Planning Committee/Interoperability Task Force that have provided memoranda of understanding include: Dayton Heart Hospital (acute care) (memorandum pending), Veterans Affairs Medical Center Dayton Campus (acute care), Montgomery County Combined General Health District, University Medical Services Association, Dayton Practice Based Research Network, PriMed Physicians Group, and the Greater Dayton Area Hospital Association. Please see Appendix B for memoranda of understanding and letters of support from the organizations listed above.

c) Progress to date developing HIT infrastructure

In December 2002, HealthLink Miami Valley (HLMV) began working closely with all provider systems in the County taking the lead in educating Dayton's public health and human services safety net organizations about the privacy (and later security) regulations for the Health Insurance Portability and Accountability Act (HIPAA). In addition to this work with the public health sector, the HLMV project has worked to coordinate information about health information technology (HIT) development throughout the broader health care community in Montgomery County (Dayton, Ohio) through local task forces and work groups. HLMV staff have become involved at the national level through the HL7 EHR SIG (HL7 electronic health record special interest group) in discussions on standards for the electronic exchange of health information. These discussions have included the National Health Information Infrastructure (NHII) efforts nationally. Recent discussions around the HLMV Transforming Healthcare Quality Through Information Technology (THQIT) Planning Grant proposal have highlighted the fact that although most provider systems in the Dayton community, public and private, are in the process of selecting vendors to install or develop HIT systems, at this time there are no plans to address interoperability issues among systems.

There is significant variability in HIT development among provider systems in the Dayton community. The Veterans Affairs Medical Center, Dayton campus uses the national VA's electronic health record system (VistA) that allows for transfer of text based patient protected health information across the country. The University Medical Services Association is currently using a practice management application called Athena. One of the larger physician practices in town, PriMed, is beta testing a practice management system developed by Centrigal which is also designing an electronic medical record (EMR) for the practice, and a number of other provider groups have developed/bought various electronic systems for billing. Other large provider systems have either recently contracted with vendors or are still shopping. Premier Health Partners which houses three hospitals, forty-two outpatient centers, a senior living facility and a home health care agency, has just employed Epic to design a fully electronic enterprise system. The Kettering Medical Center Network that includes four hospitals, and 14 outpatient care centers, and the Children's Hospital are in the process

of selecting vendors to develop enterprise systems. The combined city-county public health department currently has a centralized electronic database for vital statistics, but in the eight outpatient health centers, when there is electronic data maintained it is housed on Access databases. There are three initiatives in Montgomery County that have begun to work across provider groups using web based data systems including HLMV, the Shelter Policy Board and Montgomery County funded programs through a project called AgencyLink.

Through the HLMV initiative, the HIE currently houses demographic and service utilization data for over 12,000 health uninsured members of the community. This electronic registry of health uninsured is supported by a network of "Portal Agencies" that identify and refer health uninsured to HLMV. HLMV Community Health Advocates (outreach workers) contact those referred and assist in linking patients to existing services. In addition to the existing demographic, and self report access and utilization data, under development is an outpatient electronic health record (OEHR) for health uninsured to capture basic encounter level data including medications, allergies, immunizations, and general diagnoses and treatment recommendations 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. Of particular interest to most HLMV partner organizations is the HIE capacity to populate an electronic Medicaid application, which in turn can be submitted and tracked electronically from the HIE to the Montgomery County Job and Family Services for enrollment. All client identifiable data is stored on the HIE through encrypted Cisco virtual private network (VPN) client-server connection. Connecting agencies have access to the data entered by their own agency users. Through Agency Agreements, connecting agencies specify with which agencies they will share data and which data sections will be shared. Data in client records can be marked "open", "closed" or "read-only" to other connecting agencies. Client authorization determines level of access allowed to other connecting agencies. No identifiable client data is entered into the HIE without written client consent, and no identifiable client data is shared outside of the limits of that written consent. All of these components of the developing HIE are designed to increase among providers use and support of the HIE and the OEHR as tools to improve coordination and quality of care in the Dayton community for the health uninsured.

The Shelter Policy Board (an organization of over twenty agencies serving the homeless population) is using a HUD mandated web based data system called ServicePoint, primarily for the purpose of documenting the unduplicated number of homeless clients in the community and where they receive services for the purposes of community-wide planning, and strengthening resource allocations and services provision. HLMV staff serves in an advisory capacity on the Information System Implementation Task Force for this group. At the current time there are 3900 homeless individuals in the system. AgencyLink, a web based information exchange currently provides a resources directory of services and is developing an extensive case management application with the potential for a shared case record among the 23 county funded human/social services member agencies.

Partnership's current status for each of the Areas of Focus

HLMV partners organizations are concerned first and foremost about improving the quality of health care in the Dayton community, particularly for the health uninsured who typically use multiple providers for episodic and emergent care only. HIT infrastructure among multiple provider organizations can facilitate better care coordination, more appropriate levels of care, decreased duplication of services and reduced medical errors for uninsured patients in the Dayton community. Developing an electronic health record accessible from a central location in real time can improve overall quality of care. The feasibility of the HLMV project goals is improving. Technologically, the tools are available. Conceptually, providers understand the need for electronic records, shared data and real time access to patients' medical information. However, the current culture of the health care industry in Dayton, Ohio is highly skeptical about how HIT could actually add organizational, clinical and/or financial value. The transition from paper to electronic health records is seen by most as a necessary burden—expensive and disruptive, but the only answer to the current administrative crisis centered defined by the need to the reduce cost of every individual transaction. Yet there is too much that needs to be known and understood to make reasoned decisions about how to proceed, and much remains in flux particularly in the areas of industry standards.

Generally expected outcomes of the HLMV THQIT Planning Grant year would be to raise the level of education among providers and consumers related to HIT, begin a dialogue to support coordination and integration of HIT development among provider systems, and to develop a plan to insure interoperability of HIT systems being developing by multiple provider groups. Health care providers in the greater Dayton area are just beginning to explore and plan for the HIT infrastructure that will support the health care industry in the community for decades to come.

Section II. Proposed Planning Effort

The health care industry in the Dayton community is beginning to make the transition to electronic health information technology. One physician provider group, the Veterans Affairs Medical Center and a private cardiac hospital are currently using electronic health records. The remaining eight hospitals, the public health department and other large provider groups are in the process of making decisions about vendors to develop enterprise systems. Each of the major provider systems is currently working independently. The Greater Dayton Area Hospital Association facilitates communication among hospitals through the Information Technology and Health Insurance Portability and Accountability Act (HIPAA) Work Groups, but there is no significant system wide communication or coordination effort as provider groups make the transition from paper to electronic records systems. The HealthLink Miami Valley (HLMV) Transforming Healthcare Quality Through Information Technology (THQIT) Planning Grant proposal is designed to: 1) Initiate a community-wide dialogue regarding health information technology (HIT) in the Dayton community; 2) Develop educational and curricular materials and broadly disseminate information to consumers, health professionals and medical school faculty, residents and students; 3) Develop an implementation plan for ongoing HIT development that articulates community-wide

standards for interoperability among provider systems beginning with outpatient settings serving health uninsured members of the community; and 4) Develop a design for an ongoing self study of HIT development/implementation and clinical adoption at the community level and at the provider level

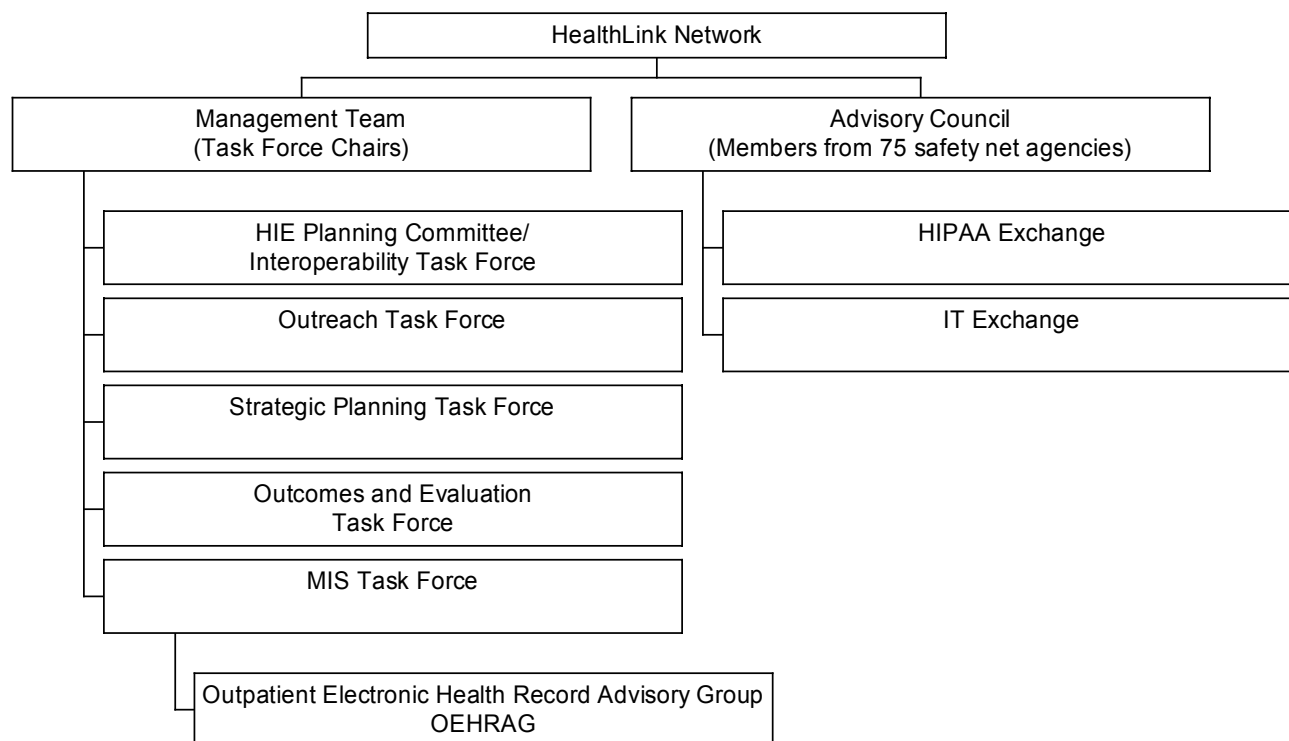
a) Planning Director:

The Principal Investigator and Co-Planning Director for the project will be Kate Cauley, Ph.D. Dr. Cauley is an associate professor in the Schools of Medicine and Professional Psychology at Wright State University, has been the Director of the Center for Healthy Communities (CHC) for the past nine years, and has served as the Principal Investigator and Co-Project Director for the HealthLink Miami Valley (HLMV) project since it's inception. Dr. Cauley has authored most of the proposals and designed many of the collaborative structures for the CHC (Please see Appendix D for a summary of selected CHC funded initiatives). She is well known among public and private provider groups locally and published in the areas of partnership development, collaboration and community academic partnerships. Dr. Cauley serves as a member of the HL7 EHR SIG (electronic health record special interest group), and recently helped establish an EHR SIG among CAP/HCAP grantees through the Health Resources Services Administration. Mary Crimmins, MA, will serve as the Planning Director and as the Chair of the Planning Committee/Interoperability Task Force for the project. Ms. Crimmins is a faculty member in the Department of Sociology, serves as a Research Associate with the CHC, and is the Management Information Systems (MIS) Task Force Co-Chair for HLMV. Ms. Crimmins is a trained sociologist with skills and expertise in project management, and organizational change. She has taken the lead in developing the expertise and educating HLMV membership regarding Health Insurance Portability and Accountability Act (HIPAA) privacy and security rules, and electronic health records and standards, and is a member of the Health Informatics Management Services Society and the American Society for Testing and Materials. Ms. Crimmins has assumed the informal role of HealthLink Information Exchange (HIE) manager for HLMV and recently established an EHR SIG for Health Resources Services Administration grantees. Both Dr. Cauley and Ms. Crimmins have been granted authority by the HLMV Network to serve in the capacities of Co-Planning Directors for the HLMV Transforming Healthcare Quality Through Information Technology (THQIT) Planning Grant year.

b) & e) Planning Committee and Planning Committee Activities:

The Planning Committee for the HealthLink Miami Valley (HLMV) Transforming Healthcare Quality Through Information Technology (THQIT) Planning Grant will be the newly established Interoperability Task Force of HLMV. The Interoperability Task Force will report to the HLMV Network through the Management Team (the executive committee of the Network), and the Co-Chairs of the Interoperability Task Force will serve on the HLMV Management Team as do other HLMV Task Force Chairs. Please see the organizational chart below.

HealthLink Miami Valley
Organizational Chart



All local and regional hospitals, outpatient clinics, physician practice groups and the public health department have been invited to join the Planning Committee/Interoperability Task Force. To date organizations interested in the Planning Committee/Interoperability Task Force who have provided memoranda of understanding include: Dayton Heart Hospital (acute care) (memorandum pending), Veterans Affairs Medical Center Dayton Campus (acute care), Montgomery County Combined General Health District, University Medical Services Association, Dayton Practice Based Research Network, PriMed Physicians Group and the Greater Dayton Area Hospital Association. The Planning Committee/Interoperability Task Force will also include the HLMV Outpatient Electronic Health Record Advisory Group Chair and external consultants as needed. The Planning Committee/Interoperability Task Force will meet biweekly throughout the planning year inviting new members as needed and using electronic classrooms to insure access to resources for members. Membership and meetings will be open and decisions will be made by consensus.¹ The project Program Manager will be responsible for staffing the meetings and meeting minutes will be posted to the HLMV website <http://www.med.wright.edu/healthlink/>. The overall goals, objectives and activities of the planning year will include the following.

¹ All members have veto power. With HealthLink we have found that with this consensus paradigm decisions are made accurately, represent the group will, and prevent group fracture.

Goal I: Initiate a community-wide dialogue regarding health information technology (HIT) in the Dayton community

Objective A: Establish the Planning Committee/ Interoperability Task Force to include information technology (IT) and provider representatives from all member organizations

- 1) Execute sub-contracts with partner organizations identifying Planning Committee/Interoperability Task Force members, and specifying compensation for year one participation
- 2) Establish meeting and continuing education calendar for the year including dates, times and locations for all meetings and educational seminars to be posted on the HLMV web site
- 3) Establish communication processes among Planning Committee/Interoperability Task Force members including standard meeting agendas, posted meeting minutes, and governance structure within HLMV including reporting to HLMV Network and Management Teams
- 4) Identify expected member organization benefits
- 5) Identify limitations to member organization participation
- 6) Review with the Planning Committee/Interoperability Task Force members the Areas of Focus from the THQIT request for proposals and the Agency for Healthcare Research and Quality expectations of a “collaborative planning processes that will result in standards-based data sharing across multiple care sites and lead to measurable and sustainable improvements in patient safety and quality of care”
- 7) Develop a shared vision statement related to the role of HIT in improving quality of health care for the Dayton community
- 8) Review goals, objectives and activities of the planning year and establish member work groups for completion of tasks
- 9) Establish project management matrix to include timeline, milestones and metrics for review by the HLMV Outcomes and Evaluation Task Force
- 10) Establish the ongoing structure for the Planning Committee/Interoperability Task Force after the initial planning year

Objective B: Conduct a comprehensive HIT assessment of Planning Community/Interoperability Task Force member organizations related to existing and planned HIT infrastructure with a focus on outpatient settings and health uninsured patients

- 11) Develop a standard HIT assessment template to be completed by each organization
- 11) Integrate responses from each organization into a composite report
- 12) Review the report against the shared vision statement and identify common factors, potential gaps and areas where additional information is needed
- 13) Expand the assessment template for future repeated measurements, and determine a standard interval for assessment updates from each organization

Goal II: Develop educational and curricular materials and broadly disseminate information to consumers, health professionals and medical school faculty, residents and students

Objective C: Assess current knowledge level regarding all aspects of HIT including technological capacities, standards, quality, current use understanding, awareness of local developments, national dialogues, and research

14) Administer the Computers in Medical Care Survey (Cork, Detmer et al. 1998) to a representative number of clinicians from each participating organization, evaluate responses and integrate data collected from any similar assessments by partner organizations

15) Conduct an informal general knowledge assessment inviting Planning Committee/Interoperability Task Force members and appropriate representatives from provider organizations to indicate where they would like additional training in the areas of Health Insurance Portability and Accountability Act (HIPAA), standards, interoperability, available programs for practice management, electronic health records and clinical decision making, hardware, vendors, etc.

16) Review the School of Medicine curriculum for courses/didactics that include content in HIT

Objective D: Develop educational materials and seminars for providers, and medical school curricula for undergraduate and graduate medical education with appropriate HIT content

17) Following a literature review, identify useful reports, materials, websites—such as the Connecting Communities for Better Health Community learning Network, to be made available to Planning Committee/Interoperability Task Force members

18) Develop concept papers and briefings to be widely disseminated locally throughout the provider and consumer communities

19) Engage expert consultants to assist with continuing medical education seminars

20) Provide continuing medical education seminars to Planning Committee/Interoperability Task Force members and providers community wide

21) Complete literature reviews for existing medical school curricular materials and develop course descriptions for curriculum committee review for both undergraduate medical education courses and residency didactic sessions

Objective E: Disseminate information about the Dayton project nationally

22) Write and submit abstracts reviewing the work of the Planning Committee/Interoperability Task Force to professional associations for presentation at at least two national meetings

23) Develop at least one article reviewing the work of the Planning Committee/Interoperability Task Force for submission to a peer reviewed publication

Goal III: Develop an implementation plan for ongoing HIT development that articulates community-wide standards for interoperability among provider systems beginning with outpatient settings serving health uninsured members of the community

Objective F: Develop an outline of the Community Plan for Health Information Systems Interoperability

24) Identify purpose of protected health information (PHI) data sharing across providers

25) Identify data elements to be included in an outpatient electronic health record

26) Identify uses for data to expand the clinical practice knowledge base, disease management, resource allocation, and overall quality of care

Objective G: Identify structures to facilitate a community-wide outpatient electronic health record system

27) Reach consensus on a common set of standards including standards such as the HL7 3.0 messaging framework, the UMLS Metathesaurus and Semantic Network for standardized nomenclature, LOINC, DICOM, etc., to facilitate interoperability

28) Work closely with the HLMV Outpatient Electronic Health Record Advisory Group in reviewing existing open source and/or off the shelf electronic medical record, electronic health record, patient health record, ambulatory clinical information system, care coordination record, pharmacy, laboratory, and radiology, systems as well as practice management, billing and specialty systems, and their capabilities for integration

29) Identify best practice cases in the areas of clinical adoption, restructuring workflow, clinical decision support and disease management for the outpatient setting

30) Design a process for determining return on investment for providers who establish interoperability through an outpatient electronic health record for health uninsured

Objective H: Identify immediate and future barriers to an implementation process for interoperability

31) Identify gaps in functionality and interoperability across developing systems and articulate potential solutions

32) Review existing vendor designed systems currently in use in the Dayton area to identify gaps in functionality and interoperability

33) Determine process for identifying costs and resources required to insure interoperability among systems

Goal IV: Develop a design for an ongoing self study of HIT development/ implementation and clinical adoption at the community level and at the provider level

Objective I: Develop and administer assessment tools to measure community wide HIT adoption during the planning year and beyond

34) Pilot the use of Computers in Medical Care Survey (Cork, Detmer et al. 1998) to determine its predictive value as a determinant of ease/difficulty of clinical adoption.

35) Develop and administer a pre-post knowledge and attitude assessment of Planning Committee/Interoperability Task Force members related to HIT.

36) Assess interoperability capabilities at beginning of planning year, at end of planning year and each year thereafter for five years

37) Monitor organizational change and HIT implementation among health and human services provider systems

38) Identify provider sites at which to study clinical adoption, workflow and quality improvement in greater detail

39) Review literature and select study protocols based on existing models and local provider sites particular interests

c) Key Personnel:

Key personnel include the Principal Investigator and Co-Planning Director, Kate Cauley, Ph.D., the Planning Director and Chair of the Planning Committee/Interoperability Task Force, Mary Crimmins, MA, the Program Manager, Carla Lachecki, BA, and project consultant, Helene Guilfooy, RN. Planning Committee/Interoperability Task Force

members will be individuals who can articulate what is needed to transition from existing systems to outpatient electronic health record systems with interoperability functionality. Dr. Cauley will be responsible for expanding the community wide-commitment to interoperability and for the interface between the HealthLink Network and the Planning Committee/Interoperability Task Force. The Planning Committee/ Interoperability Task Force will be chaired by Mary Crimmins who will have primary responsibility for the day to day functioning of the planning year goals, objectives and activities. All meetings will be staffed by the Program Manager Carla Lachecki. Helene Guilfooy will serve as consultant to the project providing technical assistance primarily in the area of standards, interface requirements and Health Insurance Portability and Accountability Act (HIPAA) compliance. Please Biographical Sketches and Other Biographical Sketches for specific qualifications of Dr. Cauley, Ms. Crimmins, Ms. Guilfooy and Ms. Lachecki.

d) Issues and Obstacles

Community will is a primary barrier in any discussion of issues that will necessitate change in the way organizations work together toward a common goal. In the discussions regarding this project the general perception is that standards based interoperability is so far in the future that discussion is premature. Compounding this perception is the unfortunate norm that data sharing between large organizations is not done as many organizations believe that sharing with competitors will impact market share. Electronic records that contain clinical information are a new frontier in most safety net organizations so the conventions that apply to exchange of information have not been developed. Old standards that stipulate confidentiality are in counterpoint to the newly applied concept of privacy through Health Insurance Portability and Accountability Act (HIPAA).

In general there is little knowledge about what the new standards will entail. HL7 2.5 is used only for billing and encounter data to expedite payment. HL7 3.0, ICD-10 and the other developments in health information management will be responded to as that response is required. It is generally accepted that pioneers do not make money. Improved quality of care is perceived as an important product of infusing information technology into health care. From the provider's perspective, the extent of assistance that is available with clinical decision support, CPOE, instant access to current studies by disease process are all "Star Wars-like technical products that our vendor will provide and our vendor will worry about standards and interoperability". These general concerns will be compounded by participating organizations' concerns about who will pay for custom programming to accomplish interoperability, and what benefits will accrue to whom. The challenges lie in the difficulty of being required to move forward when the way is not clear. The HLMV Transforming Healthcare Quality Through Information Technology Planning Grant will facilitate an opportunity for the community to chart the course together, and perhaps reach the desired destination sooner.

e) Planning Committee Activities

THQIT funding will be used to support information technology and provider staff from participating organizations for their involvement in the HealthLink Miami Valley (HLMV)

Planning Committee/Interoperability Task Force so discussions can be conducted in a multi-systems, dedicated time environment to address program goals and objectives. It is critical that the planning process be evolutionary and reflect a synergy between public health and private enterprise which are focused on improving quality of health care and access to health care in the Dayton community.

At the conclusion of the grant period, HLMV will host a Health Information Technology Summit similar to the initial HLMV Strategic Planning Summit in 2002. Executives, management staff, physicians and information technology staff from all health and human services organizations in the community will be invited to participate in the Summit where the work of the THQIT Planning Grant year will be reviewed. Participants will be asked to review the draft implementation plan and prioritize HIT strategies for implementation over the next three to five years. Plans will be made for annual HIT Summits. The HIT Summit will include continuing education and continuing medical education credit for practicing professionals and will be designed to translate research and development into practice in the HIT arena (Clancy 2003; Pringle 2003; Bakken, Cimino et al. 2004).

Please see above for a detailed summary of the HLMV THQIT Planning Grant goals, objectives and activities.

f) Future implementation and evaluation

The primary evaluative instrument is the planning document produced by the HLMV Planning Committee/Interoperability Task Force at the conclusion of the grant period. Whether that document addresses the specifications provided by AHRQ in the THQIT call for applications is critical and elemental. Beyond meeting the basic requirements of the document, the utility to the community is the next dimension to be addressed. Upon completion of the report, the document will be reviewed for its utility, first at the HIT Summit and second by a group of administrators and clinicians who were not directly involved in the work of the Planning Committee/Interoperability Task Force. Evaluation will also be conducted to document success at raising the educational and knowledge level in the community regarding HIT. The Computers in Medical Care Survey will be administered to a representative number of clinicians from participating organizations at the beginning of the planning year and again at the end, and all participants will be given a knowledge based pre-post test combined with an attitude scale regarding HIT and expectations of planning year process. Individual interviews with participants will be conducted quarterly to provide a rich source of qualitative data about the process. Additionally, participants in continuing education seminars will be pre-post tested in terms of knowledge acquired. Results from the initial self study including lessons learned will be disseminated throughout the local community and reported in at least one article to be submitted to a peer reviewed journal to articulate what lessons and an example of a planning process for community-wide interoperability. Please see more detailed descriptions of evaluative activities above in the goals and objective section.

Given the rapid pace of HIT development and the somewhat speculative nature of the standards discussion in the industry, the HLMV THQIT Planning Grant year is only the

first step in a long walk toward the overarching goal of transforming the quality of health care through information technology. The HLMV THQIT Planning Grant will launch the Dayton community into an ongoing dialogue to insure careful planning and attention to coordinated and integrated systems that will facilitate improved clinical decision making, patient safety and quality of care.

References

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