

Health Information Exchange Initiative

A B S T R A C T

Background:

Under the leadership of Governor Jim Doyle and Secretary Helene Nelson of the Department of Health and Family Services (DHFS), Wisconsin's public and private sector leaders are actively engaged in developing a statewide plan for health information exchange that will enable providers across Wisconsin to exchange important patient health information. By Executive Order, the Governor created an eHealth Care Quality and Patient Safety Board which is overseeing five work groups to identify the key elements for a 5-year road map for adoption of health information technology (HIT) and health information exchange (HIE).

Goals:

The overall goal of this MTG component is to create a regional health information exchange framework, infrastructure and system to enable multiple hospitals, clinics, and health care institutions to rapidly and securely access medical history information about patients enrolled in the Medicaid and General Assistance Medical Programs (GAMP) in Milwaukee County. Access to patients' medical histories across health care providers will help to reduce redundant tests and procedures, improve health care outcomes, and reduce health care costs.

Total Projected Budget:

2007: \$1,852,329 2008: 1,191,033

Proposed Objectives and Outcomes for Improving the Efficiency and Effectiveness of the Wisconsin Medicaid Program:

The following aligns Wisconsin's work with President Bush's Executive Order of August 21, 2006. This Order calls for advancement of HIT/EHR systems that promote interoperable HIT products so data can be easily accessible and shared. The Order also promotes adoption of technologies and models leading to transparency in health quality for all American consumers. This grant component establishes a health information exchange that will help ensure health care is delivered safely, efficiently, and cost effectively to the Wisconsin Medicaid population. The Health Information Exchange Initiative MTG component includes the following:

1. The Wisconsin Medicaid Program will partner and contract with the Wisconsin Health Information Exchange (WHIE) to create a regional health information exchange framework, infrastructure and system in Milwaukee County. WHIE is an established Regional Health Information Organization (RHIO) in southeast Wisconsin. This HIE project will improve the effectiveness and efficiency of the Wisconsin Medicaid Program by providing an exchange of patient health information that will benefit patients, health care providers, and residents of Wisconsin, and help improve health care outcomes and reduce health care costs.
2. The WHIE will establish and implement a governance model for operating and sustaining the HIE in Milwaukee and southeastern Wisconsin.
3. The WHIE will conduct marketing/communication initiatives and educate/train stakeholder groups who will use the HIE on operational policies, procedures, and processes, especially those related to privacy, confidentiality, and data sharing.
4. The WHIE will create a technical architecture fully capable of collecting and aggregating data from multiple sources, including multiple payers and other sources of clinical data, such as pharmacies. This architecture will enable secure, confidential exchange of information between authorized users when serving the Medicaid population in Milwaukee.
5. The HIE developed will initially aggregate patient data from over 11 data sharing partners in Milwaukee. The type of data available in the regional exchange system for this phase of the development will be a composite of patient registration information and claims information for Medicaid recipients. Once collected, the data will be stored in a central repository from which providers can securely access patient-specific data at the point of care.
6. Emergency Department (ED) providers will direct Medicaid patients to care management systems and primary care medical homes. Care management has proven successful in decreasing ED use and improving cost savings.
7. All data will be accessible by the public health surveillance system enabling public health authorities to proactively identify, monitor, and manage public health emergencies.
8. The HIE architecture and system developed by the WHIE can be replicated or leveraged in other regions of the State.

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PROJECT NARRATIVE

1. Statement of Project/Need:

The Wisconsin Medicaid Program proposes four distinct yet interrelated components to research, design, and implement ways to transform Wisconsin Medicaid's programs and systems. The goals of these components are to advance a coherent, whole system approach to the adoption of health information technology and health information exchange among providers and payers as a means to increase access to health care, to improve the safety and quality of health care for the Medicaid population, and to increase efficiency and reduce Medicaid costs.

Recent studies have documented that 30 to 50 percent of care in the current health care system is redundant and/or dangerous. Wisconsin is committed to using health information technology as a means to improve health care outcomes. We recognize the way to reduce health care costs is to improve quality and that value-based purchasing depends on the wide availability of information on health care results and prices. These principles form the basis of our Medicaid Transformation Grant (MTG) application.

The four components of our application will 1) Bring the benefits of electronic health records to our Medicaid population by determining the most effective ways of assuring that safety-net providers serving a high proportion of the Medicaid population have and use electronic health record systems, 2) Advance regional health information exchange to improve health care quality and safety and reduce redundant care for the Medicaid population, 3) Reform the Medicaid reimbursement system by developing and implementing value-based purchasing strategies, and 4) Design and implement a *Healthy Families Initiative*, part of Wisconsin's design for *BadgerCare Plus*, which focuses on increasing the use of preventive health care services and engaging consumers more directly in managing their own health care.

The proposal set forth in this document outlines the Wisconsin MTG component for a groundbreaking and replicable Health Information Exchange (HIE) Initiative. This innovative HIE project will create a "regional interface engine" to enable multiple hospitals, clinics, and health care institutions to rapidly and securely access medical history data about patients enrolled in Medicaid and the General Assistance Medical Program (GAMP) in Milwaukee County.

GAMP provides health care for indigent, uninsured people. This population is included in the project because experience shows that many of the people who are referred to GAMP are actually eligible for Medicaid and may be former Medicaid recipients who have lost eligibility for procedural reasons. This will establish another avenue for access for these individuals. Many Medicaid and GAMP patients use the hospital Emergency Department (ED) for their primary health care needs including medication refills, lab tests and other health concerns that are often not emergent in nature. Often, ED physicians need to treat these patients with limited or no information about the patient's medical history. Lack of vital information about a patient's medical history can result in redundant tests and procedures, inappropriate treatment, and/or fragmented care. A review of Wisconsin Medicaid claims data and ED medical records for recipients with high ED utilization revealed many instances of repeated diagnostic procedures and/or duplicate

prescriptions. Providing ED clinicians with information about a patient’s medical history, such as a longitudinal health record summary, will facilitate high-quality, effective and cost-efficient treatment decisions.

This HIE project will include design, development, implementation, and evaluation tasks. After a 2-year evaluation period, the State of Wisconsin will generate a report that includes plans for long-term deployment and sustainability, and integration with other related data exchange efforts in the region and state. The project will use a governance model and technical architecture to provide clinicians essential data about all patients, regardless of payer source, as the system grows in the future.

Under the leadership of Governor Jim Doyle and Secretary Helene Nelson of the Department of Health and Family Services (DHFS), WI is actively engaged in developing a 5-year statewide road map for adoption of health information technology and exchange of health information across providers to improve the safety and quality of healthcare. By Executive Order, the Governor created an eHealth Care and Patient Safety Board, and the Board established five work groups to develop recommendations for the road map. The Patient Care and Information Exchange work groups of the eHealth Board have identified the key elements for health information exchange to create a longitudinal health record. The work groups recommend the exchange begin with hospital and clinic providers in southeast Wisconsin already organized in a Regional Health Information Organization (RHIO). The top six priorities for information exchange identified by the work groups are demographics, diagnoses, medications, allergies, results reporting, and procedures.

The Reality and Current Inefficiencies of HIE in Emergency Departments

In most medical situations interoperable electronic health records are typically not available. Clinicians spend an inordinate amount of time searching for information needed to care for patients. Even worse, many medical decisions are made without insight into a patient’s medical history.

The current practice of sharing information by mailing or faxing paper reports is slow and prone to errors. Electronic record systems are increasingly being used by outpatient clinics but are less widespread in EDs. An urgent need exists for standards-based exchange of information for lab results and dictated reports such as radiology study interpretations, pathology reports, discharge summaries, and emergency encounter reports. For clinicians whose patients receive care at multiple hospitals and health care facilities, individual electronic interfaces to multiple institutions is cost prohibitive.

The project outlined in this proposal presents a tremendous opportunity to decrease risk, increase quality of care, decrease costs, and improve patient outcomes through the use of an interlinked health information exchange system.

Public/Private Partnerships Make This Proposal Innovative

This project promises innovation in collaboration and the ability to “connect the dots.” The National Institute for Medical Informatics (NIMI), a nonprofit Wisconsin organization dedicated to research and development of advanced health care information networking, launched the Wisconsin Health Information Exchange (WHIE). WHIE is the RHIO serving Southeast Wisconsin. The mission of WHIE is to provide a system where diverse stakeholders collaborate to enable secure, confidential exchange of health

information between authorized users. WHIE's vision is to create a system where health professionals and patients can access secure information, when and where they need it, to improve the safety, quality, and efficiency of health care.

WHIE and the Emergency Department Care and Coordination Workgroup (EDCCW), an ad hoc group convened by the Wisconsin Hospital Association, successfully brought together key players in the Milwaukee metropolitan health care market to collaborate, plan, and achieve the goals and objectives of this project.

In "connecting the dots," the project will leverage proven health information technology, aggregate dissimilar and isolated pieces of information from over 11 data sharing partners, and use industry best practices to achieve results. Technology enables innovation and improvements in the practice of modern medicine. Technology changes rapidly, but people don't. The project will deliver a solution that provides clinicians and public health officials what they want and need within their workflow, and helps them deliver effective and efficient health care.

2. Project Justification

This HIE project will improve the effectiveness and efficiency of the Wisconsin Medicaid Program by providing for the exchange of patient health information to benefit patients, health care providers, and residents of Wisconsin, and help reduce health care costs.

Several studies have estimated the cost savings resulting from the exchange of patient information between health care providers. The Patient Safety Institute conservatively estimates savings of \$10 to \$14 per patient per month (*Turisco F: Patient Safety Institute white paper: Economic Value of a Community Clinical Information Sharing Network, Part I: Value to Payers (Private, Medicare, Medicaid and self-insured employers) and the uninsured. Boston: First Consulting Group; 2003.*) With nearly 200,000 individuals enrolled in one of Wisconsin's full-benefit Medicaid plans in Milwaukee, the State could eventually realize a cost savings of up to \$2.8M per month based on the Patient Safety Institute's estimates if Milwaukee Medicaid providers are able to exchange patient health information.

Wisconsin can also realize cost savings through care management systems, treating diseases before they get worse, and providing better and more appropriate care for patients. This HIE project will help to direct Medicaid patients to care management systems and primary care medical homes, especially those who are frequent users of EDs. Between May 2005 and April 2006, about 43 percent or 85,442 of the approximately 200,000 full-benefit eligible Medicaid population in Milwaukee County visited the ED one or more times: 81,731 used the ED 1-5 times and 3,711 used the ED 6 or more times. Total ED visits were 174,803 or an average of about 2 visits per recipient. Based on these figures, reducing ED use in Milwaukee for non-emergent medical conditions will reduce health care costs.

The project will help improve the coordination of care across the health care system in Milwaukee, especially for those patients who seek care from multiple health care providers. Access to patients' medical histories across health care providers will help to reduce patient error rates and save lives lost due to medical errors. Faster access to a patient's medical history will help stem the

abuse of medications prescribed unknowingly by multiple health care providers. Electronic access to patient information reduces testing costs by 9% – 14% (*Brailer DH. The Decade of Health Information Technology: Delivering Consumer-centric and Information-rich Health Care Framework for Strategic Action. July 21, 2004. Washington, DC: US Department of Health and Human Services*). Additionally, immediate access to patient information will decrease redundancy in testing, further decreasing health care costs.

The project will also provide access to aggregated patient information enabling public health officials to proactively identify, monitor, and manage public health emergencies. In summary, the project will help to save valued health care dollars while increasing the quality of care provided to patients enrolled in Medicaid and GAMP.

3. Project Goals and Outcomes

The overall goal of this project is to create a regional health information exchange framework, infrastructure, and system to enable multiple hospitals, clinics, and health care institutions to rapidly and securely access medical history information about patients enrolled in Medicaid and the General Assistance Medical Program (GAMP) in Milwaukee County.

The following project objectives will lead to attainment of this goal:

Objective 1: Establish and implement a governance model for operating and sustaining the Health Information Exchange in Milwaukee and southeastern Wisconsin. **Method/Strategy:** The WHIE will lead and facilitate accomplishment of this objective among the various stakeholders. **Result:** HIE policies, procedures, and processes are approved by stakeholders and published.

Objective 2: Conduct HIE marketing/communication initiatives and educate/train stakeholder groups who will use the HIE on the operational policies, procedures, and processes, especially those related to privacy, confidentiality, and data sharing.

Method/Strategy: The WHIE through a contract with the Wisconsin Medicaid Program will be responsible for the marketing/communication plan and for providing the required training and workshops. **Result:** End users are informed about the HIE, and trained and ready to use the HIE when providing patient care or performing public health functions.

Objective 3: Create a technical architecture fully capable of collecting and aggregating data from multiple sources, including multiple payers and other sources of clinical data, such as pharmacies. **Method/Strategy:** Wisconsin Medicaid will contract with the WHIE to implement this architecture. Microsoft Azyxxi, a software product competitively selected by the WHIE in the planning phase for this project, is the product planned as the technology foundation for this project. Azyxxi provides a flexible, robust, scalable, secure architecture for storing and displaying patient health information. Azyxxi provides users with an intuitive and easy-to-use interface which routinely delivers sub-second response times to subsystem or end-user queries. Azyxxi will be used for receiving and storing patient information from data sharing partners, matching incoming patient information with patients already stored in Azyxxi, and viewing patient information. Azyxxi is HIPAA-compliant and has undergone the rigorous OCTAVE security certification typically applied to highly sensitive military systems. This Azyxxi system is currently installed and operating in multiple

hospitals in the Washington DC area. **Result:** An HIE technical platform is available for Milwaukee hospitals, health maintenance organizations (HMOs), and Federally Qualified Health Centers (FQHCs) who have the HIT and EHR systems in place to exchange data and/or review results through a secure Internet site.

Objective 4: Obtain and combine patient registration information and claims data to create an initial repository of encounters.

Claims information indicates when and where a clinical visit occurs and the type of diagnoses and procedures performed. Since claims data tends to lag for weeks or months after an encounter has occurred, information stored in the repository from registration systems will supplement the claims data. **Method/Strategy:** The WHIE will obtain weekly claims data extracts from Wisconsin Medicaid's data warehouse through its Medicaid Fiscal Agent, EDS. The extract will include at a minimum Medicaid claims data. It will also include Medicare claims data for dual-eligible recipients after the Wisconsin Medicaid Program successfully negotiates a data-sharing agreement with CMS for this project. The WHIE will work with the other data-sharing partners, i.e., participating hospitals, health plans, and providers, on their data feeds and interface to the HIE system. **Result:** For Medicaid recipients, both registration data for encounters and claims data are assembled into a patient-centric historical, longitudinal health care summary and presented to the provider at the point of care.

The following describes how the regional exchange process will work in this phase of the system's development:

1. **Registration-driven authorization process for patient consent to participate in regional exchange.** This process is analogous to the HIPAA instructions given to patients at the time of registration.
2. **Registration information on patient is sent to the regional exchange.** In most cases, this is an automated feed of an HL7 ADT message.
3. **Regional exchange system uses record locator service to aggregate available data on registered patient and forwards the aggregated report back to clinical site.** The clinical site is likely to use a portal type viewer for looking up these reports.
4. **Regional exchange is populated by routine downloads of claims data in addition to streaming registration data.** Claims data are likely to be added by a periodic batch process.
5. **Regional exchange automatically feeds pseudoanonymized data to public health surveillance system.**

Pseudoanonymized suggests that if public health needs to track back to investigate a case, the case can be re-identified as an individual patient.

6. **Public health decision support is enabled.** Longer term, registration with a particular chief complaint may trigger alerts from public health authorities. For example, during a pertussis outbreak, an advice message might be sent for patients reporting "cough" as part of the chief complaint, informing which criteria might be used to select patients for pertussis testing.

Technologies leveraged for this project will be compatible with the Connecting for Health Common Framework sponsored by the Markle Foundation, the Information Health Exchange (IHE) framework, and the Medicaid Information Technology Architecture (MITA) framework, where applicable. The Connecting for Health Common Framework provides an essential set of technical and

policy guides, and model contractual language for private and secure health information sharing among existing and developing health information networks. This project will leverage the Common Framework, which includes 16 technical and policy components developed by experts in information technology, health privacy law, and policy, and tested since mid-2005 by Connecting for Health teams in Indianapolis, Boston, and Mendocino County, California. IHE is an initiative being driven by health care professionals and industry to improve the way computer systems in health care share information. WHIE will develop the deliverables in this project in accordance with the IHE and MITA framework for cross-enterprise data sharing.

By developing and implementing this regional health information exchange system in Milwaukee, the Wisconsin Medicaid Program expects the following outcomes:

- Delivery of safer and higher-quality health care
- A decrease in inappropriate emergency department visits and unnecessary hospital admissions
- Improved access to and use of health care services
- Better coordinated care for patients with chronic diseases such as congestive heart failure, coronary artery disease, obstructive pulmonary disease, asthma, hemophilia, diabetes, sickle cell anemia and chronic mental health conditions
- A reduction in medical errors
- A reduction in redundant procedures and tests and duplicative prescriptions
- Improvements in pharmacy utilization patterns
- A reduction in the rate of increase in health care costs

4. Estimate of Impact to Beneficiaries

The project will initially focus on patients enrolled in Medicaid and GAMP in Milwaukee County for patients who use Milwaukee County's 13 hospital emergency departments. Any of the nearly 200,000 full-benefit Medicaid or 30,000 GAMP recipients in Milwaukee County who visit the ED, a Medicaid HMO, or an FQHC will be positively affected by the project. Please note that the Wisconsin MTG proposal outlined in Component 1: *"Bringing Health Information Technology to the Medicaid Population"* intends to strategically improve the health information technology infrastructure in Milwaukee-area FQHCs by putting EHR systems in place so these providers are linked into the exchange. Additionally, the system will initially be used by approximately 500 ED clinicians (including physicians, physician assistants, nurses, etc.); approximately 20 public health officials at the City of Milwaukee Health Department, the suburban health departments in Milwaukee County, the County of Milwaukee as a health care provider and GAMP authority, and the State health department (DHFS).

5. Description of Magnitude of the Transformation/System Change

The project will include Milwaukee County's 13 hospital emergency departments, 5 health care systems, and 4 of the 5 FQHCs, including Health Care for the Homeless, Milwaukee Health Services, Inc., 16th Street Community Health Center, and Westside

Healthcare Association, Inc. In total, the project will link 11 data-sharing partners. The health care systems include Aurora Health Care, Children's Hospital of Wisconsin, Columbia-St. Mary's, Froedtert, and Wheaton Franciscan. Participating HMOs include United Health Care of Wisconsin, Blue Cross Blue Shield of Wisconsin's CompCare HMO, Abri Health Plan, and Humana. Public health organizations include local health departments, Milwaukee County, Wisconsin Medicaid, and GAMP.

This project will make every attempt to minimize the transformation and system changes required of the data-sharing partners given that each has numerous competing priorities and initiatives planned and under way. To achieve this, the project will ask the data-sharing partners to provide existing data feeds to the system being developed in this project. This system will be responsible for merging and integrating the data in a systematic fashion. The data will be sent securely through either a site-to-site virtual private network (VPN) or Secure Shell (SSH) tunnel, which are both commonly used by hospital systems and already supported by internal operations. Patient information will be accessible to authorized users via Azyxxi software installed on workstations connected through a secure site-to-site VPN to the HIE system.

The project will add historical patient medical information to the system as needed, avoiding and/or limiting one-time historical data loads. For example, the project anticipates loading 12 to 18 months of historical administrative claims data from the State's Medicaid data warehouse, using an expanded version of the data extract Wisconsin Medicaid developed this year for an ED HIE prototype Web-based tool. The Medicaid data will be updated weekly on a rolling 12- to 18-month basis. The project will also pursue a data-sharing agreement with CMS to obtain routine extracts of 12 to 18 months (rolling) of Medicare claims data for Wisconsin Medicaid recipients that are dual eligible, so their complete claims data can be included in the HIE. No other historical data loads are planned for the project.

The approach described for this HIE project will be easily reusable in other regions of the State and by other states. Not only is there great potential for replication of the project in other areas, but WHIE highly encourages leveraging all of the components developed as part of this project and working directly with others to assist their efforts to accomplish the same or similar goals. In fact, WHIE has already leveraged other information exchange initiatives to more efficiently and effectively accomplish the project goals and objectives. The potential to expand project deliverables to other areas is significant and can include the project work plan and approach, use of case diagrams and descriptions, requirements, infrastructure, legal agreements, training materials, testing plans, service-level agreements, etc. Some of the solution components are trademarked, copyrighted, and/or restricted and would require permission from the creators to be reused.

6. Sustainability of the Project

Given the interest and commitment from participating organizations over the last 2 ½ years to establish a health information sharing exchange in Milwaukee, there is great momentum to sustain the project beyond the funding from this grant. Each participating Milwaukee hospital group is making a financial and staff resource investment in this project as well as including its data. Beyond the funding of this grant and the hospitals' investment, there is a commitment to follow-on efforts to expand the system

beyond Milwaukee County to serve, at a minimum, eight other southeastern Wisconsin counties: Waukesha, Walworth, Racine, Kenosha, Sheboygan, Fond du Lac, Ozaukee, and Washington. About 44 percent of the full-benefit eligible Medicaid population reside in these nine southeastern counties. There will also be a need to expand on the types of information available to clinicians and public health users and add to the functionality provided by the system. A portion of the funding for follow-on efforts, maintenance, and support will be supplied through the public sector and from the participating hospitals and other organizations. For example, Medicaid's annual budget will include the cost of maintaining and supporting the administrative claims data extracts needed from the State's Medicaid data warehouse. Eventually, Wisconsin intends for this HIE system to become self-supporting through user/member fees.

In summary, the project is well-positioned for sustainability beyond the funding from the MTG. The State of Wisconsin and WHIE understand that long-term sustainability will ultimately depend on the value it creates and how it contributes to improving operational effectiveness and patient outcomes. WHIE and the EDCCW have invested a great amount of time and resources to understanding the value the solution will deliver to ensure its success.

7. Evaluation Plan

The Wisconsin Medicaid Program will comply with the statutory annual reporting requirements of section 1903(z)(3)(C)(ii)&(iii) of the Social Security Act and submit an annual report to the Secretary of the U.S. Department of Health and Human Services. The project will include an independent performance evaluation of the system and its impact on care. This evaluation will be conducted by Dr. Patricia Brennan and her team from the University of Wisconsin—Madison. Dr. Brennan has degrees in both nursing and engineering, and is professionally recognized for developing a number of sophisticated models for evaluating the economic impact of RHIO implementations. Dr. Brennan will:

- Extend models from her current funded project to evaluate cost and benefits of the HIE program.
- Develop instruments that assess the current level of error rates, medication interaction events, duplicate procedures and tests, and levels of inappropriate ED visits that will then serve as baseline data for measuring improvements in quality of care. These instruments will form the basis for development of a model that will both track and predict longitudinal change in quality outcomes and estimate cost savings from improvements.
- Develop a methodology and instruments for measuring the volume of HIE traffic and the level of integration of transmitted information into the EHR repositories and the care provision workflow to gauge the penetration of information into ongoing care processes.

Some of the metrics planned to gauge the success of the project include but are not limited to throughput metrics (e.g., Average Number of ED Patients Seen per Hour, Average Wait Time for ED Patient), health care cost savings, quality improvements (e.g., change in patient error rates), ED utilization rates, and HIE system use by the EDs and other providers.

8. Project Implementation Readiness

Several key stakeholder groups have invested in foundational preparation and planning for this type of project initiative over the past three years. Wisconsin Medicaid has engaged Milwaukee County hospitals, ED providers, and Medicaid HMOs to develop a strategy for reducing inappropriate ED use by Medicaid recipients and decreasing ED-related costs. One component of that strategy was a pilot deployment of a Web-based, HIPAA-compliant HIE prototype tool for use by Milwaukee ED providers in spring 2006.

Wisconsin Medicaid, through its fiscal agent, EDS, developed a data model representative of a longitudinal health care summary and populated a database using that data model with administrative claims data from the State's Medicaid data warehouse. Currently, 10 Milwaukee-area hospitals access this database through a Web-based front end. Authorized users (currently about 200 ED providers) can look up fee-for-service and HMO Medicaid recipients who visit the ED and the provider will see information on the recipients who used the ED three or more times in the last 12 months. Available information includes patient demographics, HMO membership, participation in Milwaukee County care management programs (Total Care Management and Community Support Program), and detailed claims-based information about prior ED visits, prescribed medications, hospitalizations, and outpatient/professional visits.

While an important first step, there are many limitations to this prototype HIE. For example, it contains only information about Medicaid recipients; it is single-payer data; timeliness of information is limited by the time lag for receiving claims; only frequent ED users (three or more visits in a 12-month period) are included; it is not integrated into the ED workflow and does not interface with the hospitals' other systems, such as patient registration; the current platform doesn't permit users to enter data or communicate with each other; and people receiving both Medicaid and Medicare are not represented because Wisconsin does not currently have access to Medicare claims data. However, the work effort and funding expended to develop this prototype and the pilot demonstration serve as a model for developing a claims-based longitudinal health care summary and parts will be reused in this HIE project. The system developed in this project will replace this prototype.

Other efforts to date contributing to the State's readiness for this project include the creation of the Governor's eHealth Board and its work; and the EDCCW, which comprises private health care providers and public health officials that meet regularly to provide direction, guidance, and support for the project. WHIE brings a functioning business model and governance structure to this project, with significant time and financial resources invested in developing the legal framework for an HIE, including legal agreements for data-sharing partners, data users, and patient consent, a privacy policy, and other policies and procedures. Wisconsin DHFS has already made an investment in WHIE this year in the form of start-up funding to plan this HIE project. WHIE conducted a formal software evaluation of three vendors that resulted in the selection of the Azyxxi product using a competitive bid process, and conducted a 7-week planning phase which resulted in a comprehensive HIE implementation plan and schedule. The MTG funding would fund the implementation phase of this project and leverage the investment made thus far.

The State will oversee the project and conduct formal project reviews at key points throughout the project lifecycle.

Implementation of the HIE project will begin in November 2006. The system will be piloted in spring 2007. The application will be rolled out to end users over several months. The following is a list of key HIE system development deliverables expected in the contract with WHIE/WHIE subcontractors for this project:

1. Design and Development

- 1-Data Conversion Design
- Converted Data
- 1-Application Configuration Design
- 1-Configured Application
- 20-Application Interface Designs
- 20-Application Interfaces
- 12-Integration Service Level Agreements

2. Training

- 1-Training Plan
- 1-Communications Plan
- Training Materials
- 11-Train the Trainer Training Sessions

3. Testing and Validation

- 1- Test Plan & Test Data
- Usability Test Results
- User Acceptance Test Results
- Unit/Component Test Results
- System Test Results
- 1- Production Validation Plan
- Production Deployment Validation Results

4. Production Deployment

- 1- Production Deployment Plan
- 1- Pilot Environment
- 1- Pilot
- 1- Pilot Evaluation Results
- 1- Production Environment

5. Maintenance and Support

- 2 Years Production Support
- 2- Solution Evaluations

The following chart, *Timeline “ Component 2: Health Information Exchange,”* provides the project work break down and timeline:

Timeline “Component 2: Health Information Exchange”								
Objectives and Delivery Dates	Federal Fiscal Year							
	Q1/07	Q2/07	Q3/07	Q4/07	Q1/08	Q2/08	Q3/08	Q4/08
1. Mobilize Project Team								
2. Conduct required procurements and develop contracts								
3. Develop and implement Health Information Exchange governance model								
a. Develop policies, processes, and procedures								
b. Implement policies, processes, and procedures								
c. Monitor and adjust policies, processes, and procedures								
4. Conduct HIE marketing/communication and educate/train stakeholder groups who will use the HIE								
5. Specify requirements/query criteria for the Medicaid claims data extract, obtain initial extract, and establish process for weekly updates to the WHIE HIE repository								
6. Establish a data sharing agreement and arrangement for Medicare claims extracts for the HIE repository								
7. Prototype Health Information Exchange								
a. Design prototype								
b. Build prototype								
c. Conduct usability testing								
d. Evaluate prototype and ED workflow								
e. Publish results of prototype								
8. Pilot Health Information Exchange with two participating hospital groups and Medicaid data set								
a. Design pilot								
b. Build pilot and supporting technical infrastructure								
c. Deploy pilot								
d. Conduct user acceptance test								
e. Assess patient matching algorithms								
f. Support pilot								
9. Develop Release 1 Health Information Exchange with remaining data sharing partners								
a. Design Release 1								
b. Build and test Release 1								
c. Plan and conduct training								
d. Deploy Release 1								
e. Support Release 1								
10. Evaluate Health Information Exchange								
a. Establish evaluation criteria and success criteria for Health Information Exchange								
b. Gather data from Data-Sharing Partners to establish baseline								
c. Establish and publish baselines								
d. Evaluate pilot and publish results								
e. Gather Release 1, Year 1 evaluation data								
f. Analyze Release 1, Year 1 evaluation data and publish results								
g. Gather Release 1, Year 2 evaluation data								
h. Analyze Release 1, Year 2 evaluation data and publish results								

Budget - Component 2				
Personnel and Fringe				
Classification	FTE %	Hourly rate	FFY 2007	FFY 2008
Grant Manager	0.25	35.50	\$ 18,460.00	\$ 18,460.00
Policy Analyst	0.50	26.00	\$ 27,044.16	\$ 27,044.16
Privacy Officer	0.25	25.81	\$ 13,422.76	\$ 13,422.76
Business Analyst	0.50	26.40	\$ 27,456.00	\$ 27,456.00
Chief Medical Officer	0.20	94.13	\$ 39,158.08	\$ 39,158.08
Fiscal Specialist	0.25	18.00	\$ 9,360.00	\$ 9,360.00
Staff Total	1.95		\$ 134,901.00	\$ 134,901.00
Fringe 0.4422 of Salary			\$ 59,653.22	\$ 59,653.22
Indirect 0.056 of Salary			\$ 7,554.46	\$ 7,554.46
Salary & Fringe Total			\$ 202,108.68	\$ 202,108.68
Contractual Costs				
Data services to obtain weekly Medicaid claims data extract (w/WI MA Fiscal Agent, EDS/APS)			\$ 33,928.00	\$ 33,928.00
Negotiate data sharing agreement and perform data services to obtain, store, safeguard, and provide routine extract of Medicare claims data for dual eligibles (w/WI MA Fiscal Agent, EDS/APS)			\$ 264,658.00	\$ 66,164.00
HIE system development and implementation services for Medicaid population in Milwaukee (w/WHIE) (includes all IT development services, and commercial-off-the-shelf software and hardware to be housed, operated, and maintained by WHIE)			\$ 1,033,600.00	\$ 568,600.00
Project Manager (w/DHFS Central IT using WI IT Services Supplier Contract)			\$ 183,040.00	\$ 183,040.00
Evaluation services (w/Dr. Brennan, UW-Madison)			\$ 94,573.00	\$ 96,771.00
Contract Subtotal			\$ 1,609,799.00	\$ 948,503.00
Supplies				
Miscellaneous (20% of staff costs less other costs)			\$ 10,855.69	\$ 10,855.69
Supplies Subtotal			\$ 10,855.69	\$ 10,855.69
Equipment				
Equipment Subtotal			\$ -	\$ -
Other Costs				
Rent	FTE at \$2624 per FTE annually		\$ 5,116.80	\$ 5,116.80
Network	FTE at \$1740 per FTE annually		\$ 3,393.00	\$ 3,393.00
Phone	FTE at \$475 per FTE annually		\$ 926.25	\$ 926.25
Internal Services	FTE at \$3300 per FTE annually		\$ 6,435.00	\$ 6,435.00
Training	FTE at \$100 per FTE annually		\$ 195.00	\$ 195.00
Travel	FTE at \$2000 per FTE annually		\$ 3,900.00	\$ 3,900.00
Mtg/Teleconf Call Expense	2 per month average at \$400 each		\$ 9,600.00	\$ 9,600.00
Other Costs Subtotal			\$ 29,566.05	\$ 29,566.05
Total each FFY			\$ 1,852,329.41	\$ 1,191,033.41
Grand Total			\$ 3,043,362.83	