

**PRIVACY AND SECURITY SOLUTIONS FOR INTEROPERABLE  
HEALTH INFORMATION EXCHANGE  
Ohio Final Implementation Plan Report  
March 2007**

**I. Background (1 page)**

A. Describe the purpose and scope of this plan

To facilitate effective exchange of health information that will result in improved quality in health care, Ohio has engaged stakeholders in discussions to identify privacy and security barriers to health information exchange (HIE), potential solutions, best practices, and specific plans to implement these solutions. To date, the results of these discussions have been summarized and are presented in the **Final Assessment of Variation and Analysis of Solutions Report**. The purpose of this report is to articulate plans to implement those solutions within the context of Ohio's political, economic, social and legal environments.

The Ohio *Final Implementation Plan Report* recommends methods to facilitate private and secure health information exchange within the context of the current healthcare market and industry. Our goal is to provide complete and accurate patient centric information at all points of care to improve the quality of healthcare for all Ohioans. Health information exchange (HIE) and health information technology (HIT) are evolving in dynamic environments, both in terms of technological and social context. For HIE the most critical technological dimension is the ability to have systems communicate with one another. Systems must be interoperable and interoperability is facilitated by the consistent use of standards. At the time of this writing, for-instance, the only approved standard for clinical data is the American Society for Testing and Measurement Continuity of Care Record (CCR). This report recommends use of approved national standards such as the CCR while also recognizing that standards are continually evolving. This recommendation should not be seen as proscriptive; as such specificity may result in unintended implementation burdens that might negatively impact health care providers or organizations.

For each of the implementation strategies below, there are possible barriers associated which are summarized in the aggregate as follows:

**FISCAL**

1. Lack of funding
2. The biennium budget cycle limits timing opportunities for state funding.
3. Lack of funding for the human resources needed to provide monitoring and oversight.
4. Telemedicine that could be used effectively in rural areas is not supported by payers.

**INFRASTRUCTURE**

1. Infrastructure deficits including limited connectivity and low adoption rates for EHRs.

2. The lack of process engineering in healthcare is a technological deficit that requires research.
3. Rural areas in southeastern and south central Ohio vary in terrain from hilly to mountainous and this terrain is a physical barrier to connectivity.
4. Cell phone coverage in these rural areas is poor and with few potential customers, private companies are unlikely to be motivated to build more infrastructure.
5. Even with expanded connectivity, many practices and hospitals will lack the funding to provide hardware, software and technical expertise to support health information exchange.
6. Evolving technological solutions for security will have to be integrated.

#### BUSINESS ENVIRONMENT

1. Industry pressures are strong to resist change in both healthcare and information technology.
2. Organizations have not consistently adopted existing standards such as the HIPAA x.12 transaction standard for eligibility, billing and payment.
3. Vendors and large organizations are currently operating on old standards that do not interoperate with new standards. These organizations will resist migration to new platforms due to cost considerations.
4. Integration with legacy systems will be problematic.
5. Competition in the healthcare market has historically precluded sharing information.
6. Concerns about controlling the use of data that are shared must be considered in legal arrangements.
7. The lack of law and regulation to govern health information exchange and RHIOs is problematic.

#### CONSUMERS

1. Consumer buy-in has not been assessed.
2. Priorities for the Governor's Steering Committee may not include consumer education.
3. Consumer education may not be seen as an important factor to adoption of HIE by providers.
4. There are certain cultural and religious communities that will not participate directly in technology based efforts.

#### EVALUATION

1. Benchmarks for evaluation of progress are not established.
2. Inability to articulate return on investment for HIE.
3. Analysis of existing and developing security standards will be required.

The groups that have participated in this process have determined that there are many solutions that can be addressed only by the federal government and those solutions are not included in the scope of this report. It is critical to note that some federal solutions are prerequisite to any state based solutions. For example, national standards are prerequisite for interstate health information exchange.

B. Describe key assumptions, limitations and other background information to lay the foundation for the implementation plans

The following assumptions have been informed by a number of discussions and meetings including regional meetings, topical area statewide meetings, health information technology (HIT) Roadmap meetings, written reports from the Health Policy Institute of Ohio (HPIO), Health Information Security and Privacy Collaborative (HISPC) work group meetings and written reports, the State Auditor's report on Medicaid, and state Medicaid Administrative Services Council proceedings. These assumptions reflect the gestalt of the health information technology and exchange discussion and have no unifying or individually identifiable source.

Key assumption 1: Timely, comprehensive, patient centric, accurate and complete clinical information will be available to all health care providers at the point of care for any patient regardless of insurance coverage, economic or social status.

Key assumption 2: Citizens have articulated the need for privacy and security protection of their health information and are leery of the government as the sole controller of that information. Consequently, governance for health information exchanges must be conducted using a transparent public-private partnership model that assumes health information exchange is a public utility.

Key assumption 3: Ohio endorses use of current and future approved national standards to facilitate HIT and HIE including but not limited to: the Continuity of Care Record (CCR) the standard for exchange of a comprehensive set of clinical information, LOINC, the standard for lab results, RxNorm and NCPDP, the standards for pharmaceuticals, SNOMED, the standard for medical content language, HL7 the standard for clinical messaging, and X12, the standard for health care eligibility and payment transactions. The purpose of this endorsement is the recognition that consistent implementation of national standards will facilitate interoperability across the state and with the National Health Information Network (NHIN).

Key assumption 4: To ensure privacy and security of clinical data, HIPAA must be used as the primary legal catalyst to facilitate the exchange of complete and accurate patient centric information at the point of care.

Key assumption 5: Some state and federal laws are more restrictive regarding the use and disclosure of certain types of health information, e.g., health information related to mental health, substance abuse and certain disease processes. These laws will apply to both paper and electronic health information exchange. These legal limitations must be balanced with the Ohio consensus that a complete health record is required to provide quality healthcare.

Key assumption 6: Ohio recognizes the need for a central state monitoring body to assure standards based exchange of clinical data. This central state monitoring organization will operate, as do national standard setting

organizations, using open discussion that is consensus driven ensuring a voice for all.

Key assumption 7: Funding at both the state and federal level will be required for all of these efforts. Health information exchange must not become another unfunded mandate.

Limitation 1: All of the above assumptions are predicated on the following assumptions of responsibility at the federal level including:

- Setting approved national standards for HIT and HIE
- Coordinating future approved national standards with existing approved national standards.
- Enforcing implementation of current approved national standards as stipulated in HIPAA.
- Integrating ERISA, FERPA and HIPAA where practical as related to health information exchange.
- Further specifying standards such as defining covered entities as new kinds of organizations, e.g. RHIOs become reality.

Limitation 2: Work in Ohio is mitigated by the following transitions currently underway:

- New governor
- New Directors for the Ohio Department of Health, Ohio Department of Job and Family Services, Ohio Department of Insurance, etc.
- Re-organization of state government to include one central Medicaid agency handling here-to-for managed functions of at least seven current state agencies
- Budget negotiation currently underway for a biennium budget to begin July 1, 2007

## **II. Summary of Analysis of Solutions Report**

### **A. Summarize the solutions identified to be implemented**

The solutions presented here are only those that fall within the scope of action by the state. These solutions focus on centralizing Ohio's HIE/HIT discussion and providing connectivity across the state so that rural areas will be able to participate on equal footing. Standards have been identified by all of the information professionals as critical to all solutions. To date the federal response to our assertions that standards are critical to assure interstate health information exchange has been met with a suggestion that states need to develop their own solutions to the lack of national standards. Our minority view that standards are in the federal domain will continue to be pressed by Ohio and shared with other states. Our primary concern is that in the absence of federal involvement, multiple solutions will evolve that will not achieve or enhance interoperability.

In addition to the need for national standards, the Ohio Medicaid program has identified specific federal and state codes that preclude sharing of any health

information for any Medicaid including S-CHIP participants. This interpretation seems to vary by state, so national clarification may be needed to assure that information is equally available for all US citizens regardless of income or method of payment.

Privacy and security of health information are concerns that have to be balanced against the value of having accurate and complete information available at the point of care. Groups representing individuals who have experienced the stigma inherent to health conditions such as HIV/AIDS, behavioral health, and alcohol and drug abuse are very concerned with confidentiality for their populations. This protective response is supported by existing federal and state law and is diametrically opposed to the view of healthcare professionals who need complete information to assure patient safety. Consumer education, coupled with legislative action, is the current solution that is proposed.

Specifically the solutions that will be addressed in this report are:

### **Solutions affecting variations in organization business practices and policies (but not affecting state laws)**

*1 b. At the state-level, there should be a monitoring body that routinely reviews interpretation, compliance and practice related to the approved national standards. Planned compliance timelines are needed for smaller institutions and practices.*

*4 a. States should take responsibility for developing the basic infrastructure to support health information exchange.*

*4 b. Any publicly funded projects must be standards based including compliance with the Continuity of Care Record (CCR) standard or other generally accepted standards.*

*6 a. Consumer education is needed to articulate the perceived value of health information exchange against the perceived risk of privacy and security breaches in an electronic system.*

*6 b. Increased human oversight, evaluation of data integrity and enforcement of security protections are all recommended.*

### **Solutions affecting state laws/regulations**

*5 a. Current laws and practices that govern the paper release of treatment related information should be implemented electronically to allow transfer and exchange of data and to track specific patient permissions.*

*5 b. The Continuity of Care Record, the only current national standard identifying fields for clinical data in an electronic record, and any future standards gaining similar acceptance should be used as the standard for determining what kind of information is routinely exchanged with regard to mental health, substance abuse and other diseases such as HIV/AIDS.*

- B. Describe success measurements or other benefits to be derived from these solutions

With the establishment of a quasi-governmental permanent state level organization having broad representation from around the state and from multiple stakeholder groups, Ohio will have an organizational home for dialogue on health information exchange, potential funding, and standards implementation. Providing high speed connectivity to the entire state will enhance Ohio's infrastructure support for HIE. An agreement to approach HIE with a focus on state-wide collaboration and cooperation across regions will be pivotal to success. Providing complete and accurate information to treating healthcare professionals at the point of care for all Ohioans with appropriate privacy and security protection is the goal of this effort with improved safety and quality outcomes as the anticipated benefit.

### **III. Review of State Implementation Planning Process**

- A. Describe the organization of the State Implementation Planning Workgroup, including its charge, leadership, membership and stakeholder representation. If necessary, note any additions to workgroup membership or stakeholders engaged through outreach in vetting implementation plans by updating the Stakeholder Participation table that was submitted as an attachment to the final variations and solutions report.

The IPWG was formed by merging membership of the SWG with new members (a minority) to produce a group of 55 individuals. The leadership was provided by the chairs of SWG, VWG and AWG, with Kate Cauley, the SWG chair providing meeting facilitation. Many of the stakeholders had also been involved in the multiple meetings held in Columbus and around the state to discuss variations, business practices and legal parameters. The LWG was represented in the IPWG by several members with expertise in healthcare law. The following stakeholder groups were represented on the IPWG: Attorneys, Behavioral health, Behavioral health IT, Community health centers, Consumers, Disease management vendors, Government IT, Home health care, Hospitals, Hospital association, Hospital IT, Long Term Care, Medicaid, Medical associations, Payers, Pharmacy, Physicians, Physician associations, Public health, Rural Public health, RHIOs, Universities, and Vendors. All of the minutes, drafts of the plans and other documentation were electronically circulated and posted to the wiki. The plans the group developed were widely discussed with the Steering committee and through two meetings of the RoadMap Joint Working Group, presentations at professional organizations, and regional meetings.

- B. Briefly describe how the group assessed the feasibility of implementation plans

Broad stakeholder input has been the primary mechanism used to assess the feasibility of the implementation plans. The IPWG has taken the solutions listed above and has in their meetings reviewed each to describe what assumptions are being made, what is likely to work in practice, what the current state of practice is and more broadly, what are best practices which may direct implementation in Ohio. Minutes from the meetings were prepared by staff and used to develop draft reports. The IPWG reviewed and commented on the draft reports. The draft reports were posted to the wiki for public

comment and members were encouraged to solicit input from other interested parties. Adoption of the implementation plans specific to the identified solutions as presented in the IPWG Interim Implementation Report by the Steering Committee was completed.

The IPWG membership included many IT professionals and had representation from a cross section of stakeholders. The membership was asked to provide expert opinion on the feasibility of the solutions and implementation plans. All of the discussion had to take into account the economy, business practices, existing legacy systems, pandemic resource depletion, and the growing public interest in HIE. As a result the implementation plan for Ohio has contingencies and recognition of multiple barriers that may become problematic. The Steering Committee as the current state-level group has provided feedback from the leadership across the state and has asked IPWG to scale back specificity, and deadlines and has provided clear direction that signed patient consent for health information exchange is not desirable. Providing clinicians with accurate and complete information at the point of care is of primary concern. The implementation plans have been reviewed by the LWG again and have resulted in the clarification of barriers, including federal ones that will have to be addressed.

C. Describe how implementation plans are organized, prioritized, and presented in this report

For each of the six major barriers identified in the *Interim Assessment of Variation Report*, a set of solutions was proposed and presented in the *Interim Analysis of Solutions*, and the *Final Assessment of Variation and Analysis of Solutions Report*. For each of the solutions over which the state has potential authority to respond, implementation strategies were developed. At the end of the discussion of each solution, a summary is presented that amalgamates all implementation strategies.

Priority has focused on items over which Ohio has local control, such as the state-level quasi-governmental organization. Lower priority has been recognized for areas that will require additional funding, such as consumer education. Standard setting is seen as the purview of the federal government, and is a prerequisite if a national health information network is the goal of our activity. Ohio will work with the federal authorities such as HHS through ONC and CMS to implement standards, but will not create state standards that may or may not be compatible with federal standards.

The organization of implementation plans follows the RTI imposed format from the Final Implementation Planning Report Outline3\_15\_07.

D. Discuss any specific implementation planning methods and/or tools used

Consensus driven facilitated discussion has been widely used to inform all planning.

#### **IV. State-level Implementation Plans**

*Implementation plans that can be executed within a single state (i.e., not requiring collaboration of two or more states and not having interstate implications) should be documented in this section.*

## A. Statewide strategy and coordination

The Final Assessment of Variation and the Analysis of Solutions Report will identify a number of solutions for possible implementation, some of which are likely to be unrelated in terms of resources required and implementation approach. Describe the strategy for overseeing the implementation of a variety of disparate solutions; identify responsible persons, organizations or agencies, staffing and other resources, and timelines

Ohio will focus its ongoing work through the quasi-governmental state-level organization described under solution 1.b. That organization will provide leadership and organize technical working groups and other resources needed to meet timelines.

## B. Implementation plans for identified solutions

*Solution 1 b. At the state-level, there should be a monitoring body that routinely reviews interpretation, compliance and practice related to the approved national standards. Planned compliance timelines are needed for smaller institutions and practices.*

### 1. Summary of effective practice(s) to be instituted:

Ohio's population is currently estimated at 11.4 million, and as the seventh most populous state in the country, Ohio must consider broad and well orchestrated plans to effectively implement health information exchange. Providing accurate patient centric information at all points of care is critical to improving the quality of healthcare. Clinical information can only be effectively exchanged across provider organizations/care settings through the use of standards which are a key component of interoperability across multiple HIEs. To assure consistent statewide use of standards and facilitate routine HIE, coordination and monitoring of the implementation of approved national standards needs to be centralized. The IPWG suggests that the current Governor's Steering Committee for the HISPC project continue to provide leadership in this effort and that by July of 2007, a permanent quasi-governmental organization be established having broad stakeholder, public and governmental, private sector, legislative and regional representation. The Legal Working Group will continue to meet to be able to provide technical assistance to the Governor's Steering Committee as needed regarding legal issues related to the creation of the state-level organization.

### 2. Planning assumptions and decisions:

Assumptions:

- a. Healthcare is provided locally.
- b. Improving quality of care is the most important driver for HIE, and is followed closely by efficiency considerations.
- c. Consistent, equitable implementation of standards driven health information exchange requires continual coordination and monitoring.
- d. Strong regional representation to, and focus of, a state-level organization will ensure balanced discussion, planning and implementation for statewide implementation of HIE.
- e. Cooperation and open communication is critical to success.

- f. A single state-level leadership role (person or organization) with representation from the Governor's Office and responsibility for monitoring HIE will expedite implementation of standards changes.
- g. Coordination with neighboring states must be centralized through a state-level organization.
- h. A public-private partnership that fosters inclusion of all is the best practice for governance of a state-level organization.
- i. A statewide organization does not necessarily mean a single "state" RHIO.
- j. RHIOs by definition are regional organizations which serve as information hubs capable of linking to broader HIE networks.

Decisions:

To establish a permanent quasi-governmental state-level organization.

3. Project ownership and responsibilities (identify specific individual and/or organization names and titles)

The Governor's Steering Committee for HISPC, as the designee of the Governor's Office will be responsible for establishing a permanent quasi-governmental organization ensuring broad stakeholder, public and governmental, private sector, legislative and regional representation.

4. Project scope

At a minimum the new permanent quasi-governmental organization will be responsible for coordination and monitoring of consistent implementation of approved national standards across the State of Ohio. The Governor's Steering Committee will establish the scope of responsibility for this organization. In relation to health information exchange, the scope for the permanent quasi-governmental organization could be as specific as running a single state-level RHIO, or as general as serving as a clearing house for information. In specifying scope of responsibilities for the state-level organization, the Governor's Steering Committee will need to clearly recognize and integrate efforts currently underway around the state which include both attempts to centralize administrative data across state agencies and regional insurers, and efforts already underway to establish and operate regionally based RHIOs across the state. These currently include but are not limited to the Cleveland area's NEORHIO, Southeastern Ohio's ARIC, the Dayton area's HealthLink RHIO, Cincinnati's HealthBridge, and the Columbus and Toledo organizing efforts (yet unnamed).

5. Identification of tasks required, organized by work breakdown structure

- Governor's Steering Committee will review implementation plans.
- Governor's Steering Committee will discuss parameters for the state-level organization.
- Governor's Steering Committee and new state-level organization will determine more specific roles and responsibilities of the state-level organizations as well as regular funding streams to support activities.

6. Project timeline and milestones

- Identify a funding mechanism (placeholder) in the new biennium budget to fund the permanent quasi-governmental state-level organization by March 2007.
- Establish the responsibilities, stakeholder representation for membership, and organizational structure of the quasi-governmental state-level organization in preparation for legislative action by June 2007.

- Implement funding to support the work of the state-level organization for the 2008-2009 biennium period by July 2007.
  - Confirm specific membership and establish first meeting of the permanent quasi-governmental state-level organization by September, 2007.
7. Projected cost and resources required  
We estimate \$2 million with a reduced level of ongoing annual support.
  8. Means for tracking, measuring and reporting progress  
Meeting minutes and quarterly reports. Performance against planned timelines.
  9. Impact assessment on all affected stakeholders in the state (including small and rural providers)
    - Strong regional representation will be implemented through membership in the state-level organization.
    - Openness, inclusive practice and collaboratively focused meetings driven by consensus are important to assure the representation of all stakeholders.
    - Focus from governance to funding will be on collaborative rather than competitive processes to ensure that all Ohioans are included in comprehensive HIE.
  10. Feasibility assessment (only to provide any additional detail beyond the feasibility assessment documented in the Solutions Report)
  11. Possible barriers that the implementation plan may face
    - a. Lack of funding
    - b. The biennium budget cycle which requires specific recommendations by March 2007 for the 2007-2009 biennium.
    - c. Infrastructure deficits including limited connectivity and low adoption rates for EHRs.
    - d. Industry pressures are strong to resist change in both healthcare and information technology.
    - e. Organizations have not consistently adopted existing standards such as the HIPAA X-12 transaction standard for eligibility, billing and payment.
    - f. Vendors and large organizations are currently operating on old standards that do not interoperate with new standards. These organizations will resist migration to new platforms due to cost considerations.
    - g. Competition in the healthcare market has historically precluded sharing information.
    - h. Consumer buy-in has not been assessed.
    - i. Inability to articulate return on investment for HIE.

*4 a. States should take responsibility for developing the basic infrastructure to support health information exchange.*

1. Summary of effective practice(s) to be instituted:  
Ohio's Third Frontier Network is an infrastructure driven effort, coordinated through the Ohio Department of Development and administered through the Ohio Board of Regents, which provides connectivity to most of the state. The Third Frontier Network is a dedicated high-speed fiber-optic network linking Ohio colleges and universities with research facilities to promote research and economic development. Over 1,600 miles of fiber create the network backbone connecting colleges and universities, K-12 schools, and communities together.

The challenge is that not all of the state is connected and connectivity is focused in the urban hubs. The impact of this lack of connectivity in rural areas has created a digital and economic divide that is difficult to redress. The US census estimates that approximately 25% of Ohioans live in rural areas, some 2.6 million people. In these rural areas there is a higher incidence of poverty, higher rates for Medicaid eligibility and greater difficulty with economic development.

2. Planning assumptions and decisions:

Assumptions:

- a. All Ohioans deserve equal access to their health information through electronic health information exchanges.
- b. Health information exchange must be based on technology that will neutralize the effect of place.
- c. Connectivity must be ubiquitous and load balanced across the entire state.

Decisions:

To connect the entire state, especially all rural areas, as soon as possible.

3. Project ownership and responsibilities (identify specific individual and/or organization names and titles)

Connectivity is seen as a public utility that the State must provide on an equitable basis. The ownership of this effort is jointly held by the Board of Regents as the administrative authority, and the State legislature as the funding authority, however emphasis on the need to coordinate and monitor state efforts should be driven by the permanent quasi-governmental state-level organization.

4. Project scope

All of Ohio must be connected to provide health information exchange around the state.

5. Identification of tasks required, organized by work breakdown structure

- Assess the areas that do not have connectivity and cell phone coverage.
- Assess the appropriate technology that might be used to redress this problem.
- Develop a plan with timetables to ensure statewide connectivity
- Determine milestones and assess progress toward ubiquitous connectivity.

6. Project timeline and milestones

To be determined by the state-level organization.

7. Projected cost and resources required

To be determined by the state-level organization.

8. Means for tracking, measuring and reporting progress

To be determined by the state-level organization.

9. Impact assessment on all affected stakeholders in the state (including small and rural providers)

Small providers, small facilities and safety net clinics do not have adequate resources to independently adopt HIT and participate in HIE.

Patients in rural areas are disproportionately affected by the inequity resultant from an incomplete infrastructure to support HIE across the state.

Low income “working poor” have access issues for health care that will remain unchanged.

10. Feasibility assessment (only to provide any additional detail beyond the feasibility assessment documented in the Solutions Report)

No additional information.

11. Possible barriers that the implementation plan may face

- a. Lack of funding
- b. The biennium budget cycle which requires specific recommendations by March 2007 for the 2007-2009 biennium.
- c. Telemedicine that could be used effectively in rural areas is not supported by payers.
- d. Infrastructure deficits including limited connectivity and low adoption rates for EHRs.
- e. The lack of process engineering in healthcare is a technological deficit that requires research.
- f. Rural areas in southeastern and south central Ohio vary in terrain from hilly to mountainous and this terrain is a physical barrier to connectivity.
- g. Cell phone coverage in these rural areas is poor and with few potential customers, private companies are unlikely to be motivated to build more infrastructure.
- h. Even with expanded connectivity, many practice and hospitals will lack funding to provide hardware and software to support health information exchange.
- i. Benchmarks for evaluation of progress are not established.
- j. Inability to articulate return on investment for HIE.
- k. There are certain cultural and religious communities that will not participate directly in technology based efforts.

*4 b. Any publicly funded HIE or HIT projects must be standards based including compliance with the Continuity of Care Record (CCR) standard or other generally accepted standards.*

1. Summary of effective practice(s) to be instituted:

The State of Ohio is interested in fostering adoption of health information technology and health information exchange to improve the quality of care for all Ohioans. To the extent that such adoption may be funded with state generated funding, Key Assumption 3 from above is applicable to ensure interoperability and opportunity for health information exchange in the most cost effective and efficient manner. Specifically, approved national standards for clinical data such as the CCR should be part of the specifications for any state supported HIT and HIE projects and activities. This is specified because of concern that a clear distinction be made in HIE between clinical and billing transaction standards is required to provide a foundation for transformational change in healthcare data exchange. As a payer, the state is responsible for paying for health care and health coverage for Medicaid and employees. To the extent that state funding is used to support health information exchange, the state should assist in the provision of leadership toward implementing this solution by adopting approved national standards such as the CCR.

2. Planning assumptions and decisions:

Assumptions:

- In order to effectively exchange information standards must be used.
- Benchmarks for clinical quality standards must be implemented.
- Clinical data are not comprehensively or directly measurable in billing data.
- Adoption of HIE and HIT will be accelerated by requiring compliance to such standards.

- Implementation of equitable, standards driven health information exchange requires coordination and monitoring.
- The CCR will be harmonized with any other evolving approved national standards that apply nationwide.
- “The CCR is a core data set of the most relevant administrative, demographic and clinical information facts about a patient’s healthcare, covering one or more healthcare encounters.” (2005)
- EHRs that will be certified by CCHIT will have to be capable of generating a CCR XML schema populated with data related to patient encounters by May 2008 to send and receive data from RHIOs, see:  
<http://www.cchit.org/files/Ambulatory%20Domain/Final%20Criteria%20-%20INTEROPERABILITY%20-%20Ambulatory%20EHRs%20-%202006.pdf>
- Medicaid funding may be used to promote standards based HIE.

Decisions:

All state funded projects related to HIT and HIE should specify the use of existing and future approved national standards including the CCR.

3. Project ownership and responsibilities (identify specific individual and/or organization names and titles)

The Governor’s Steering Committee for HISPC, as the designee of the Governor’s Office having broad stakeholder, public and governmental, private sector, legislative and regional representation, and the subsequent permanent quasi-governmental state-level organization will provide leadership to implement standards and to recommend methods for compliance.

4. Project scope

This state-level organization should be responsible for developing and implementing processes to ensure standards based HIE across the state including specifications in state funded projects to use approved national standards such as the CCR. State Medicaid will work with the state-level organization to develop strategies to leverage Medicaid specific state resources to promote standards based HIE including the use of approved national standards such as the CCR.

5. Identification of tasks required, organized by work breakdown structure

- Review and determine all likely HIT and HIE state funded projects.
- Develop language to be used in contracts for state funded projects that require the use of approved national standards such as the CCR.
- Make appropriate changes in the contracts process to ensure use of approved national standards such as the CCR.

6. Project timeline and milestones

- Identify potential Medicaid funding mechanisms for HIT and HIE by September 30, 2007
- Review other state controlled funds for HIT and HIE by September 30, 2007.
- Develop language to be used in contracts for state funded projects that require the use of approved national standards such as the CCR by December 31, 2007.
- All contracts should have above language by March 30, 2008.

7. Projected cost and resources required

To be determined by the state-level organization.

8. Means for tracking, measuring and reporting progress  
To be determined by the state-level organization.
9. Impact assessment on all affected stakeholders in the state (including small and rural providers)  
State funded HIT and HIE projects using approved national standards including the CCR will facilitate HIE for all Ohioans.
10. Feasibility assessment (only to provide any additional detail beyond the feasibility assessment documented in the Solutions Report)  
No additional information.
11. Possible barriers that the implementation plan may face
  - a. Lack of funding
  - b. The biennium budget cycle requires specific recommendations by March 2007 in order to be included in the 2007-2009 biennium.
  - c. Lack of funding for the human resources needed to provide monitoring and oversight.
  - d. Even with expanded connectivity, many practices and hospitals will lack funding to provide hardware and software to support health information exchange.
  - e. Evolving technological solutions for security will have to be integrated.
  - f. Industry pressures are strong to resist change in both healthcare and information technology.
  - g. Organizations have not consistently adopted existing standards such as the HIPAA X-12 transaction standard for eligibility, billing and payment.
  - h. Vendors and large organizations are currently operating on old standards that do not interoperate with new standards. These organizations will resist migration to new platforms due to cost considerations.
  - i. Integration with legacy systems will be problematic.
  - j. Competition in the healthcare market has historically precluded sharing information.
  - k. Medicaid presents unique legal challenges to health information exchange.

***Barrier:* 5. “Federal and state law requirements that are applicable to mental health, Medicaid, HIV/AIDS, and substance abuse records, are stricter than the requirements of HIPAA.”**

*5 a. Current laws and practices that govern the paper release of treatment related information should be implemented electronically to allow transfer and exchange of data and to track specific patient permissions.*

1. Summary of effective practice(s) to be instituted:

The State of Ohio is interested in a smooth transition from paper records to electronic technology platforms in Medicaid, mental health, substance abuse and with certain disease processes such as HIV/AIDS. As such, current practice, which involves signed releases for the appropriate use and disclosure of “sensitive” data and the appropriate storage of “sensitive” data will be instituted in an electronic record while still ensuring that privacy and security standards are maintained. For those with appropriate role based access, having electronic access to information including effective dates, and specific information to be released will facilitate patient care while protecting patient confidentiality. Such a system would provide more effective tracking of releases.

In areas other than Medicaid, mental health, substance abuse and HIV/AIDS (“Restricted Areas”), data that is currently electronically transmitted through payment transactions such as diagnoses and medications will continue to be exchanged for use in the provision of treatment, payment or operations. Existing laws must be complied with and operationalized through business rules for expanded electronic health information exchange in these Restricted Areas. Since it is important to provide comprehensive health information on each patient as electronic health information exchange is implemented, legal solutions that permit exchange of diagnosis and medications without specific consent are critical to promote patient safety.

## 2. Planning assumptions and decisions:

### Assumptions:

- a. Current state and federal laws and regulations prohibit the exchange of data pertaining to treatment in the Restricted Areas without patient consent.
- b. Current state and federal laws and regulations prohibit the exchange of information contained in the medical record of Medicaid patients for non-Medicaid providers or for purposes other than the administration of the Medicaid program without specific patient consent.
- c. In order to provide comprehensive care, providers need access to diagnostic and medications data in the Restricted Areas.
- d. Current federal and state laws should be modified to allow exchange of medications and diagnoses data in the Restricted Areas among treating healthcare providers.
- e. In order to effectively exchange information about permissions and authorizations, standards must be used.
- f. Exchange of information about permissions and authorizations will require implementation planning.
- g. Implementation of equitable, standards driven health information exchange requires coordination and monitoring.
- h. Recent changes in state legislative leadership provide an opportunity for informed planning.

### Decisions:

- For the release of information beyond simple diagnosis and medications, current laws and practices that govern the paper release of treatment related information will be implemented electronically to allow transfer and exchange of data and to track specific patient permissions.
- For diagnosis and medications, legal solutions must be sought that will facilitate electronic health information exchange where medications and diagnosis information is presented ONLY to healthcare providers who are treating the patient.

## 3. Project ownership and responsibilities (identify specific individual and/or organization names and titles)

The Governor’s Steering Committee for HISPC, as the designee of the Governor’s Office having broad stakeholder, public and governmental, private sector, legislative and regional representation, and the subsequent permanent quasi-governmental state-

level organization will provide leadership to implement standards and to recommend methods for compliance.

#### 4. Project scope

- At a minimum the new permanent quasi-governmental organization will be responsible for coordinating and monitoring methods for evaluating releases of “sensitive” information across the State of Ohio in accordance with recognized and approved national standards.
- The new permanent quasi-governmental organization will be responsible for advocating for legal solutions that will facilitate electronic health information exchange where information is presented ONLY to healthcare providers who are treating the patient.

#### 5. Identification of tasks required, organized by work breakdown structure

- Identify a funding mechanism for analysis.
- Review existing laws and requirements.
- Review existing documentation methods.
- Review authorization (signature) for potential electronic implementation.
- Propose an Implementation Guide for use in Ohio or adopt a national model.

#### 6. Project timeline and milestones

- Identify potential funding mechanisms to analyze existing laws and regulations by December 1, 2007.
- Conduct the analysis of permissions and authorizations by April 1, 2008.
- Develop a specific implementation plan and establish a pilot project for testing by June 1, 2008.

#### 7. Projected cost and resources required

To be determined by state-level organization.

#### 8. Means for tracking, measuring and reporting progress

To be determined by state-level organization.

#### 9. Impact assessment on all affected stakeholders in the state (including small and rural providers)

Ensuring functionality to document release of information to authorized providers related to the Restricted Areas will work both to protect privacy and security of sensitive information, and to ensure that needed information related to diagnosis and medications is available without specific consent at the point of care to facilitate providing the highest quality of care.

#### 10. Feasibility assessment (only to provide any additional detail beyond the feasibility assessment documented in the Solutions Report)

- A pilot project is recommended to identify potential problems prior to statewide implementation.
- Medicaid and Drug and Alcohol confidentiality restrictions are governed by both federal and state statutes. Effective change of these restrictions must occur at both the state and federal level.
- HIV/AIDS confidentiality restrictions are governed by state statutes. Effective change of these restrictions must occur at the state level.

#### 11. Possible barriers that the implementation plan may face

- a. Lack of funding
- b. The biennium budget cycle requires specific recommendations by March 2007 in order to be included in the 2007-2009 biennium.

- c. Infrastructure deficits including limited connectivity and low adoption rates for EHRs.
- d. The lack of process engineering in healthcare is a technological deficit that requires research.
- e. Industry pressures are strong to resist change in both healthcare and information technology.
- f. Competition in the healthcare market has historically precluded sharing information.
- g. Consumer buy-in has not been assessed.
- h. Benchmarks for evaluation of progress are not established.
- i. Special interest groups are likely to oppose any statutory or regulatory change.
- j. Statutory or regulatory change is a very cumbersome process and is subject to political will.
- k. All states will have to address these issues, further compounding interstate exchange of information.
- l. Concerns about controlling the use of data that are shared must be considered in legal arrangements.
- m. The lack of law and regulation to govern health information exchange and RHIOs is problematic.

5 b. *The Continuity of Care Record, the only current national standard identifying fields for clinical data in an electronic record, and any future standards gaining similar acceptance should be used as the current standard for determining what kind of information is routinely exchanged with regard to mental health, substance abuse and other diseases such as HIV/AIDS.*

1. Summary of effective practice(s) to be instituted:

The State of Ohio is interested in promoting health information exchange for all Ohioans regardless of the source of funding for healthcare treatment. Federal and state laws are meant to protect data such as diagnoses, therapist notes, psychological reports, and treatment plans related for information in the Restricted Areas. The permitted exchange without specific consent should be extended to the CCR specified fields for clinical exchange of data for Medicaid, mental health, substance abuse and HIV/AIDS in the electronic clinical record. Using such a national standard for the exchange of clinical data for the Restricted Areas will facilitate HIE to ensure that a comprehensive record is available to authorized providers at point of care, facilitating quality of care for all Ohioans. Additionally, when using electronic health records, the exchange of data is further protected by the inclusion of the HIPAA audit trail in electronic HIE systems facilitating monitoring for infractions of privacy and security protections.

2. Planning assumptions and decisions:

Assumptions:

- Some state laws may place greater restrictions on the ability of an entity to use or disclose certain types of health information; however, current business practices include the exchange of diagnostic and medications history for treatment, payment or operations, except in the Restricted Areas.
- The goal of health information exchange is to provide a comprehensive view of patient health and treatment to health care providers at the point of care.

Decisions:

The business practices that operationalize electronic exchange of diagnostic and medications data for the Restricted Areas using an approved standard such as the CCR should be monitored through the state-level organization and RHIOs or other central data hubs.

3. Project ownership and responsibilities (identify specific individual and/or organization names and titles)

The Governor's Steering Committee for HISPC, as the designee of the Governor's Office having broad stakeholder, public and governmental, private sector, legislative and regional representation, and the subsequent permanent quasi-governmental state-level organization should provide leadership to implement standards and to recommend methods for compliance.

4. Project scope

At a minimum, the new permanent quasi-governmental organization should be responsible for coordination and monitoring implementation of business practices to incorporate an approved national standard such as the CCR to house, among other clinical data, diagnostic and medications data related to all areas including the Restricted Areas.

5. Identification of tasks required, organized by work breakdown structure  
Develop an Implementation Guide for use in Ohio or adopt a national implementation.

6. Project timeline and milestones

Develop the Implementation Guide by December 31, 2007.

7. Projected cost and resources required

To be determined by state-level organization.

8. Means for tracking, measuring and reporting progress

To be determined by state-level organization.

9. Impact assessment on all affected stakeholders in the state (including small and rural providers)

Use of approved national standards such as the CCR to house diagnostic and medications data for the Restricted Areas will facilitate comprehensive HIE for all Ohioans.

10. Feasibility assessment (only to provide any additional detail beyond the feasibility assessment documented in the Solutions Report)

No additional information.

11. Possible barriers that the implementation plan may face

- a. Lack of funding

- b. The biennium budget cycle limits timing opportunities for state funding.

- c. Infrastructure deficits including limited connectivity and low adoption rates for EHRs.

- d. The lack of process engineering in healthcare is a technological deficit that requires research.

- e. Industry pressures are strong to resist change in both healthcare and information technology.

- f. Competition in the healthcare market has historically precluded sharing information.

- g. Consumer buy-in has not been assessed.

- h. Benchmarks for evaluation of progress are not established.

- i. Federal and state laws that govern the Restricted Areas need to be changed or modified to permit the same level of exchange for treatment as is often afforded for payment, i.e. the electronic exchange of diagnoses and medications.
- j. Special interest groups are likely to oppose any statutory or regulatory change.
- k. Statutory or regulatory change is a very cumbersome process and is subject to political will.

6 a. *Consumer education is needed to articulate the perceived value of health information exchange against the perceived risk of privacy and security breaches in an electronic system.*

1. Summary of effective practice(s) to be instituted or barrier(s) to be mitigated or eliminated by the plan

The value of accurate and complete health information at the point of care as facilitated through electronic health records has not been articulated well to the public at large. Many consumers fear that their health information will be disclosed inappropriately and that it will be used by employers and insurance companies to discriminate against them. Privacy and security breaches abound in the financial world and these inform the public's view on privacy and security. However, since hurricane Katrina, consumers have been more amenable to storing health information in electronic formats. Research shows that more Americans are creating their own paper based or electronic personal health record. Education of the public is needed on proposed and actual security features to protect health information and it should emphasize best industry practices for securing networks, encryption and role based access, and audit trails. Additionally, the consumer will need to understand the process by which data in an electronic record can be reviewed and modified as appropriate. The positive impact of having accurate information available at the point of care to improve the quality of care is another message that must be articulated. The State of Ohio should design a consumer education/marketing campaign to address these issues using existing resources such as the Ohio University benchmark study in consumer perception to inform future research and practice.

2. Planning assumptions and decisions

Assumptions:

- HIE will improve the safety of health care for all.
- State of the art privacy and security practices combined with effective monitoring and compliance should result in "safe" exchange of health information.
- Enforcement of consequences of breaches is critical to improving consumer comfort with HIE.

Decisions:

- Consumer education should be developed and implemented through existing structures to articulate the perceived value of health information exchange against the perceived risk of privacy and security breaches in an electronic system.

3. Project ownership and responsibilities (identify specific individual and/or organization names and titles)

The Governor's Steering Committee for HISPC, as the designee of the Governor's Office and the permanent quasi-governmental state-level organization broad stakeholder, public and governmental, private sector, legislative and regional representation will provide leadership to market HIE to the public, articulating the value of quality improvements, stressing the privacy and security provisions to offset risk of inappropriate disclosure of information, and reviewing processes for consumer review and modification of information in the record.

4. Clearly defined project scope

Public education campaigns should be launched to inform consumers about both the privacy and security protections and the value of HIE to improve quality of care and processes for data review.

5. Identification of tasks required, organized by work breakdown structure

- Assess the attitudes of consumers toward HIE.
- Identify existing mechanisms for consumer education, and develop processes to provide focused consumer education related to HIE.
- Review existing education/marketing plans to identify best practices for the Ohio campaign.
- Develop and implement education/marketing campaign through appropriate venues
- Evaluate the effectiveness of the campaign.

6. Project timeline and milestones

- Assessment of consumer attitudes toward HIE to be completed by December 1, 2007.
- Identification of existing mechanisms for consumer education and development of process to provide consumer education related to HIE completed by December 1, 2007.
- Review of existing education/marketing plans to identify best practices for the Ohio campaign to be completed by April 1, 2008.
- Campaign developed and tested by December 31, 2008.
- Full implementation of campaign to be completed in July 1, 2008.

7. Projected cost and resources required

To be determined by the state-level organization.

8. Means for tracking, measuring and reporting progress

To be determined by the state-level organization.

9. Impact assessment on all affected stakeholders in the state (including small and rural providers)

Assessing the attitudes of the public must include intentional sampling of rural areas. When designing the marketing campaign for rural areas, the use of opinion leaders such as health care providers and advocates may be important to develop consumer confidence.

10. Feasibility assessment (only to provide any additional detail beyond the feasibility assessment documented in the Solutions Report)

No additional information.

11. Possible barriers that the implementation plan may face

- a. Lack of funding
- b. The biennium budget cycle requires specific recommendations by March 2007 in order to be included in the 2007-2009 biennium period.

- c. Priorities for the Governor's Steering Committee may not include consumer education.
- d. Consumer education may not be seen as an important factor to adoption of HIE by providers.

6 b. *Increased human oversight, evaluation of data integrity and enforcement of security protections are all recommended.*

1. Summary of effective practice(s) to be instituted or barrier(s) to be mitigated or eliminated by the plan

Data integrity and enforcement of security protection will need to be routinely coordinated and monitored at multiple levels including but not limited to the individual provider level, the regional health information organization level, the state-level and the interstate or national level. The state-level organization in Ohio will need to establish and/or adopt/integrate appropriate existing protocols for routine audits of data to ensure data integrity and security at all levels. First, as the data goes into an electronic record from whatever source, there must be consistent standards in place related to accuracy and timeliness of data, privacy and security standards including role based access, HIPAA audit trails, sourcing all data, and opportunity for consumer review of data. When data from individual care settings is combined in a central repository such as through a RHIO, further privacy and security standards need to be in place including routine monitoring and auditing of data to prevent both errors and duplication that could result in incomplete records. Additionally, standards for real time and/or routine periodic updates of data from multiple care settings need to be in place. Finally, at the level of facilitating health information exchange statewide standards need to be in place to ensure accuracy and timeliness of data from multiple RHIOs. At every step of the way both systems based and human oversight are required. Additionally, standards for data base administration will need to be developed for all levels of health information exchange.

The ability to alert consumers to changes in their health record must be included in planning considerations. Evaluation of data integrity on a system level and inclusion of accreditation data is critical to success. A State-level IRB is recommended for research considerations.

2. Planning assumptions and decisions

- In order to facilitate health information exchange in Ohio there will be regional hubs of information organized through RHIOs.
- A state-level organization should provide both monitoring and coordinating oversight of RHIOs as well as facilitate data integrity and security protocols for statewide health information exchange.

3. Project ownership and responsibilities (identify specific individual and/or organization names and titles)

The Governor's Steering Committee for HISPC, as the designee of the Governor's Office and the permanent quasi-governmental organization having broad stakeholder, public and governmental, private sector, legislative and regional representation will provide leadership to promote best business practice in security and data integrity for health information exchange in Ohio.

4. Clearly defined project scope
  - Working at all levels of health information exchange including: the individual provider setting where individual data is first entered; at the RHIO level, where data from multiple provider settings is integrated and/or exchanged; at the state-level where data from multiple RHIOs is integrated, and at the national level where data are integrated into the NHIN, standards and business rules for system and human oversight of data security and integrity will be established.
5. Identification of tasks required, organized by work breakdown structure
  - Conduct a review of current practices related to individual user activities in health information exchange including the initial search in the data base for a particular patient, how data is sourced, how individual use is monitored and tracked and what kinds of audits are currently in place to review accuracy and timeliness of data.
  - Establish standard business practices to ensure consistency across the state.
  - In conjunction with other statewide regulation, coordinate through the state-level organization standards and business practices for ensuring data integrity and security at the RHIO and statewide level.
  - Facilitate processes that establish a state standard for regular audit and review of assessment of standards and business practices across the state that is transparent to the consumer.
  - Facilitate processes that establish a state standard to review incorrect data and to order correction, such as in the case of health identity theft etc. that is transparent to the consumer.
  - Establish a procedure through which consumers can routinely review and request corrections related to data in their electronic records related to erroneous data management.
6. Project timeline and milestones
  - All of the above is to be completed by June 30, 2008.
7. Projected cost and resources required
  - To be determined by the state-level organization.
8. Means for tracking, measuring and reporting progress
  - To be determined by the state-level organization.
9. Impact assessment on all affected stakeholders in the state (including small and rural providers)
  - Ensuring data integrity and security at all levels will contribute toward consumer support for local, regional, statewide and national electronic health information exchange as it related to improving quality of care.
10. Feasibility assessment (only to provide any additional detail beyond the feasibility assessment documented in the Solutions Report)
  - No additional information.
11. Possible barriers that the implementation plan may face
  - a. Lack of funding for the human resources needed to provide monitoring and oversight.
  - b. Analysis of existing and developing security standards should be required.
  - c. Integration with legacy systems will be problematic.

- d. Analysis of existing and developing security standards will be required.

## **V. Multi-state Implementation Plans**

*Implementation plans that would require cooperation and collaboration by two or more states should be documented in this section.*

Ohio will continue to be involved in discussions and development of national standards and will continue to share the view that in the absence of federal involvement multiple solutions will evolve that would not achieve interoperability. To date no specific plans have been identified with our five bordering states.

## **VI. (Optional) National level recommendations that would facilitate state-level activities**

*In this section please describe actions that you would recommend for national level implementation. Be specific in describing the problem that needs resolution and why it needs to be handled at the national level. No need for implementation details.*

National standards are pivotal to the effective exchange of health information across organizations, states and territories. The states' responsibilities in health information exchange hinge upon the development and implementation of those standards. The recommendation that Ohio puts forward is to require the use of the Continuity of Care Record standard as the first adoption target. Multiple federal laws including Medicaid, FERPA, HIPAA, mental health and substance abuse law must be harmonized and guidance must be issued about the status of RHIOs as covered entities. Each state cannot provide solutions to these national issues, nor should they be asked to as such solutions might result in 50+ variants, one from each state or territory.

The following barriers are assumed to be best addressed on the federal level:

- 1a. *Approved national standards not State standards are the solution.*
- 1c. *Electronic messaging, elements of the clinical record, and transactions are increasingly electronic, approved national standards at this level should be adopted.*
- 1d. *As approved national standards are implemented, they should be in compliance with the existing standards as defined by HIPAA.*
- 2a. *Identify and use a unique identifier for patient identification in the NHIN, with protocols developed for randomized probabilistic matching to routinely verify accuracy of this patient identifier. A risk assessment of the use of any national unique identifier should be included.*
- 2b. *In the future, accurate identification of patients should be through biometrics.*
- 3a. *Standards need to be developed for role based access as defined initially by HIPAA with regard to treatment, payment and operations, and further defined in terms of both covered and non-covered entities and people likely to have access to data.*
- 3b. *The EHR audit trail, documenting by time and date stamp and source all read and write access to PHI, currently required under HIPAA regulations should be reinforced and required under state regulations for all health information exchange.*
- 3c. *Standardization of the application of the medical need to know and minimum necessary concepts as currently articulated in state and federal law should include specificity for read and write access in the exchange of PHI.*

3d. *Automatic reporting of access to one's records should be an option for consumers, with a formal process identified. There should be a standard process for consumer initiated review and/or correction of data to ensure integrity of data.*

3e. *Formulate a model for best practices in security standards that should include a review of all existing security standards. This model should include a data classification schema.*

5c. *ERISA, FERPA and HIPAA regulations should be integrated.*

5d. *Specific language should be developed which identifies conditions under which RHIOs or other clearinghouse organizations are routinely designated as covered entities.*