The Maryland Healthcare Commission
Health Information Organization Research
Kentucky - KHIE

Section		February , 2009	Definitions	Kentucky KHIE
Vision	**I.**	**Vision**		
	A.	Vision and Mission	**Clear description of how to respond the unique needs an opportunities of HIE in state**	Kentucky is a forming HIO - Vision is to create a laboratory to design, develop and research RIO and HealthCare outcomes for HIE. Purpose is to have a statewide implementation of the Kentucky HIE (KHIE)
	B.	Principles		
Strategy and Planning	**II.**	**Financial Model and Sustainability**	**Economic Analysis of cost and benefit for each phase of implementation**	
	A.	Revenue Sources		
	A1	Transaction fees		
	A2	Subscription fees		
	A3	Membership fees		
		One time set up fee		
	A4	Hospital funding		
	A5	State Funding		
	A6	Federal Funding		
	A7	Health Plan funding		
	A8	Physician funding		
	A9	Philanthropic funding		
	B.	Budget		
	B1	capital		
	B2	operating costs	We have MICHIE and CRISP and some information on Vanderbuilt	
	B2-1	Salaries		
	B2-2	Benefits		
	B2-3	Office expense		
	B2-4	Rent		

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	B2-5	Utilities		
	B2-6	Software purchase and maintenance		
	B2-7	Hardware purchase and maintenance		
	B2-8	Taxes		
	B2-9	Cyber Liability Insurance	Colorado only	
	B3	cash flow		
	B4	break even analysis		
	C.	Community Benefit		
	D.	Benefit Realization		
	D1	ROI - financial measurement		
	D2	ROI - quality measurement		
	D3	ROI - System use measurement		
	D3-1	how many users		
	D3-2	what do they access		
Strategy and Planning	**III.**	**Governance Framework**	**A multi-stakeholder approach that represents the needs of the community and all stakeholders**	
	B.	Ownership model: Public-Private Partnership		
	C.	Profit Status: Not-for-profit		
	D.	Articles of Governance		
	E.	Role of Local HIEs:		

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	E1	May include but not require creation of independent governance entities to oversee regional or local HIE. All HIEs would conform with statewide policies, standards and rules.		
	E2	RHIO participation will be required (required as regional governance entities)		
	F.	Technical Operations		
	F1	Separate governing structure from technical operations (potential for combination in latter stages) (governing structure for technical operations)		
	F2	Governance and technical operations in single entity		
	G.	Accountability Mechanisms		
	G1	Direct oversight through contracts with incentives for adherence and penalties for non-adherence		
	G2	Direct oversight via legislation		

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	H.	Board of Director Composition		governed by the e-health network board and the Healthcare Infrastructure authority.
	H1	Governor's Office		
	H2	State Medicaid Agencies		
	H3	State Department of Health		
	H4	State Healthcare and Hospital Association		
	H5	State Medical Association		
	H6	Other non-profits who are involved in the medical community		
	H7	Government Agencies who may be a stakeholder		
	H8	Consumers		
	H9	Employers / Purchasers		
	H10	Insurers		
	H11	Individual Health Care Providers		
		Hospitals		
		Clinics		
	H12	Pharmacy		
	H13	Clinical Laboratories		
	H14	Higher Education		
	H15	Quality Organizations		
		Local HIEs		
	J.	Board Committees and Responsibilities		
	J1	Governance Board		
	J1-1	Maintain vision, strategy, and outcome metrics		

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	J1-2	Build trust, buy-in and participation of major stakeholders statewide		
	J1-3	Assure equitable and ethical approaches		
	J1-4	Develop high-level business and technical plans		
	J1-5	Approve statewide policies, standards, agreements		
	J1-6	Balance interests and resolve disputes		
	J1-7	Raise, receive, manage and distribute state, federal, private funds		
	J1-8	Prioritize and foster interoperability for statewide and sub-state initiatives		
	J1-9	Implement statewide projects and facilitate local/sector projects		
	J1-10	Identify and overcome obstacles		
	J1-11	Financial and legal accountability, compliance, risk management		
	J1-12	Educate and market		
	J1-13	Facilitate consumer input		

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	J1-14	Determining compensation for staff		
	J2	Board Committee Charter		
	J2-1	Broadens stakeholder representation in governance body		
	J2-2	Provides content expertise in very specific areas		
	J2-3	Represents clinicians, consumers, employers and payers		
	J3	Types of Committees		
	J3-1	Steering Committee		
	J3-2	Privacy and Security (legal, S & P officers)		
	J3-4	Clinical		
	J3-5	Technical / Standards		
	J3-7	Outreach and Education		
		Finance		
	I.	Operational / Management Positions and Responsibilities		
	I1	Management		
	I1-1	Staff		
	I2	Responsibilities of HIO Management and Staff		
	I2-1	Execute strategic, business and technical plans		
	I2-2	Coordinate day-to-day tasks and deliverables		

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	I2-3	Establish contracts and other relationships with local/sectoral initiatives		
	I2-4	Provide industry knowledge		
	I2-5	Advise the Board		
Strategy and Planning	**IV.**	**Privacy and Security**		
	A.	Registration		
		Type of Registration authority		Plan for a credentialing service
	B.	Authentication		Early planning stages
	B1	providers		Authentication of user identity - Unique user Id
	B2	consumers		Authentication of user identity - Unique user Id
	B3	public health		Authentication of user identity - Unique user Id
	B4	other institutions (educational)		Authentication of user identity - Unique user Id
	B5	non licensed providers (if any exist in state)		
	B6	data authentication (in and out of HIO)		
	B7	system authentication (system accessing HIO)		
	C.	Identification		Planned for also as cross referencing in the master person index - must have identity verification at registration
	C2	public health		
	C3	other institutions (educational)		
	C4	non licensed providers (if any exist in state)		
	C5	data identification		

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	C6	system identification		Planned for by having organization identification
	C7	Credentialing of health care providers		Plan for a credentialing service
	D.	Audit		Audit trail of all transactions, include data and time, use of data, code module making the change
	D1	what is audited		Activity logging of data accessed - logging of authorization history
	D2	who audits		Vendors
	D3	how often		
	D4	external audit requirements	Could include consumer audit requirements as well	
	E.	Authorization		
	E1	providers authorized to see what data		Limit to data
	E2	consumers authorized to see what data		Consumers in charge of authorizing who can see data
	E3	public health authorized to see what data		
	E4	other institutions (educational) to see what data		
	E5	non licensed providers (if any exist in state) to see what data		
	E6	data authorization		
	E7	system authorization		
	F.	Access	Role Based using HL7 Standards	
	F1	Who can access what data		provide for role based access - restrict data based on role

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	F2	Who can change, update data	Consumer controlled access	Consumer access control
	F3	Sensitive specially protected health information - substance abuse, HIV/AIDS, genetic etc.		Must be protected per federal and state laws
	G.	Consent Framework		
	G1	Type of Consent		
	H.	Legal Agreements		
	H1	master participation agreement		
	H2	use agreement		
	H3	business associate agreements		
	I.	Policy and Procedures	Develop sound policy to manage authorization and access to electronic patient information in a consumer centric approach to health information exchange (Privacy and Security Policies)	
	I1	authentication		
	I2	audit		
	I3	authorization		Support for policy governing patient authorization for data sharing
	I4	access		
	I5	consent		
	I7	Break the glass		

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	I10	Support for Policies Governing Patient Authorization for Data Sharing as in HRB		
	J.	Legal Issues		
	J1	HIPAA considerations		HIPAA compliant
	J2	MDCMRA as may be required		
Strategy and Planning	**V.**	**Stakeholder Outreach and Education**	**Ensure Transparency, convene all stakeholders, educate. Understand market forces, patterns of care, who to connect to and political environment and form relevant policy to enable improved community health status**	
	B1	Consumers		
	B2	Under-served		
	B3	Providers		
	B4	Public Health		
	B5	Government Agencies		
	B6	Non-profits		
Detail Design	**VI.**	**Care Delivery**	**Implementation Sequencing – Who has access first and Implementation Phasing - What information is available first**	
	A.	Data Partners		
	A1	Hospitals		
	A2	Laboratories		
	A3	Clinics		

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	A4	Pharmacies		
	A5	Individual Physician Practice		
	A6	Nursing Homes		
	A7	State Health Agencies		
	A8	Quality Organization		
	A9	Medicare		
	A10	Medicaid		
	A11	Insurers		
	B.	Data Exchange Requirements	Use case analysis to determine actors, information they need, how to provide:	Physician Order Entry, Disease Mgmt, Public Health, de-identified data
	B2-1	Medication history and reconciliation		Planned for
	B2-1-3	e-prescribing and prescription histories		Planned for
	B2-2	Lab results		Planned for
	B3	Radiology Results		Planned for
	B4	Radiology images		Planned for
	B5	Inpatient episodes		
	B6	Dictation / transcription		
	B7	Claims		
	B8	Pathology		
	B9	enrollment / eligibility		Planned for
	B10	Cardiology		
	B11	GI		
	B12	Pulmonary		
	B13	Hospital discharge summary		
	B14	Emergency room reports		
	B15	Patient Reported Data		
		Immunization		Planned for
		Bioterro alerts		Planned for

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	B16	Ambulatory electronic health record		
	B19	Medical Alerts		Planned for
	B20	Demographics		Planned for
	C.	Application Functionality	Evaluate the following applications based on use case analysis:	
	C1-1	clinical messaging		Planned for
	C1-2	Continuity of care records (CCD)		
	C1-3	Longitudinal health records		
	C1-5	Insurance Eligibility		
	C1-6	Health Services Research, public health		Planned for
	C1-8	Master person index		Credentialing service
	C1-9	Record Locator Service		
	C1-10	Health Record Banking		Planned for
	B17	Disease Management Tools		Planned for
	B19	Medical Alerts		
	D.	System Architecture		ASP Model
	D1	Plan for interfaces of data from data providers		Physicians with EMR systems must be allowed to connect seamlessly - need interfaces to Centricity, Eclipsys, Epic, McKesson, Meditach and Siemens SMS Invision
	D3	Central Repository / Federated Model		Central system where data maybe stored and a Distributed system which includes more than one HIE, insurance companies, e-prescribing repositories
	D4	Record Locator - Edge Servers		Planned for
	D5	Hybrid Model		Hybrid model - data remains in the same location as the source system

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	D6	MPI		Credentialing of Health Care Providers - Master Person Index
	D7	HRB with opt-in		Planned for - still deciding on opt-in or opt-out
		SOA - Service Oriented Architecture		
	D8	Web-based application (portal)		EMR - lite provided for physicians who do not have an EMR
	C1-11	Auditing		
	C1-12	Security Applications		
	E.	Analytics - Reporting		
	F.	Standards		MITA
	F1	Standards for Message and Document Formats (HL7)		Planned for
	F2	Standards for Clinical Terminology		
	F3	CCHIT - ENHAC Standards for Certification		All systems connecting to the HIE must be CCHIT certified
	F4	HITSP		Yes
	F5	ASTM Standards		
	F6	NIST e-authentication		
	F7	IHE		
Implementation	**VII.**	**Project Management**	**Method for ensuring smooth planning and implementation**	Project Management provided by ASP
		Gap Analysis of current technologies		System Analysis - Identification of barriers
	A.	Team Selection	We can only address this in general - intended to be in general who is running the project and if PM standard techniques in place.	Planned for
	B.	Detail Schedule		Planned for
	C.	Task development		Planned for

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	D.	Hardware infrastructure		Planned for
	E.	Software Solution Deployment		Planned for
	F.	Interface analysis		Planned for
	G.	Interface Development		Planned for
	H.	Agreement negotiation		Done by Kentucky
	I.	Solution Testing		Planned for
Maintenance	**VIII.**	**Operations processes**	**Support functions**	ASP model
	A.	Staffing		
	B.	Support Services		Change control, 24x7 support, System test planning, disaster recovery plan