

State-level operations will also include establishing and maintaining required policies and standards for local HIEs. This includes establishing and maintaining interoperability and technical standards, financial and business practices, and a process for developing and maintaining privacy and security policies. The THSA has recognized that privacy and security standards are a high priority for state lawmakers and would like to serve as a resource in state-level policy development. HHSC has committed to studying the privacy needs of Texas citizens to aid in the development of a consent policy for the state that will respect the public's desires. This information will be used to inform the Texas legislature in the 2011 Legislative Session and help the state to adopt a consent policy. State-level operations will also include legal services to support the development of HIE trust agreements and a universal consent form, and to provide ongoing analysis of the legal framework.

Finally, the state-level HIE strategy includes the development and administration of a statewide evaluation and sustainability plan and the development of state-level shared services. As part of the planning process, HHSC developed a survey and environmental scan that will be used to benchmark Texas' HIE market. In order to inform a sustainability model and business plan, HHSC and the THSA will also develop methods to measure the impact of HIE at local and state levels and to identify the value of HIE to its beneficiaries. The THSA also plans to enhance the value of HIE by developing state-level shared services. These services will include a record locator service to connect local/regional HIEs, a provider directory service to provide network addresses and communication protocols for connecting providers and other entities with authorization to sharing health information, and connectivity to the Nationwide Health Information Network (NHIN) to facilitate nationwide interoperability and connectivity with the state's federal partners.

## **2. Promote Local HIE Activity**

The second state-level HIE strategy is designed to promote local HIE activity. Texas has several local-level HIE initiatives that have already developed strategies to coordinate care in local markets and provide value. HHSC and the THSA will further these efforts by developing a grant program to provide partial funding for the planning, implementation, and operations of local HIE initiatives and networks. First, a set of minimum criteria will be identified for applying for the HIE grants. Then, the THSA will develop and distribute a request for applications (RFA) for the local HIE grant program. Applications will be evaluated to determine if they meet the minimum criteria for consideration and if they adequately plan to implement the identified core HIE services and meet the required policies and standards for local HIE (the development of which are part of the state-level strategy). Grants will be awarded to all qualifying HIEs to:

- ❑ Develop plans for upgrading or implementing local HIE infrastructure to deliver core HIE services, and implement required policies and standards;
- ❑ Upgrade or implement local HIE infrastructure to deliver core HIE services and implement required policies and standards; and
- ❑ Monitor and evaluate local HIE impact to inform sustainability planning.

## **3. Contract for HIE Services for Areas without Local HIE Activity**

The third state-level HIE strategy is critical for developing the necessary infrastructure in the areas of the state that still lack any HIE activity. This "white space" strategy requires HHSC and the THSA to contract with one or more entity to provide HIE connectivity to regions of the state without local HIEs. The THSA will develop a request for proposals (RFP) to provide HIE services for areas not served by a local HIE. Respondents will be able to propose coverage for some or all of the unserved areas. Innovative financing models will be encouraged. Eligible respondents could include vendors, local HIEs, RECs, or any others with the technical ability to deliver HIE services. Proposals will be evaluated for quality, cost, readiness,

coverage, and stated willingness to deliver core services, implement required policies and standards for local HIEs, and participate in program evaluation. The execution of these contracts will establish full HIE coverage of the state’s white space, and their monitoring by the THSA will ensure the delivery of core HIE services, adherence to state policies and standards, and inform ongoing sustainability planning.

Implementing these three HIE strategies will enable improvements in the quality and efficiency of the Texas health care sector by establishing an HIE infrastructure for the entire state. The sections that follow detail the state’s existing HIE capabilities and explain in more detail how the planning process and the identified strategies address the governance, finance, technical infrastructure, business operations, and legal needs of the State of Texas.

## 8.2 HIE Implementation Timeline: Key Activities and Tasks

The following tables show the anticipated timeline for completion of key HIE implementation tasks.

Table 11: Proposed HIE implementation timeline, 2010–2011

	2010		2011			
	Q3	Q4	Q1	Q2	Q3	Q4
<b>General State-Level Services</b>	Establish governance structure	Administer governance structure				
	Identify core HIE services	Monitor implementation of core HIE services				
		Establish required policies and standards for local/regional HIEs	Maintain policies and standards for local/regional HIEs			
		Establish interoperability and other technical standards	Maintain interoperability and other technical standards			
<b>Local HIE Grant Programs</b>	Develop and distribute RFA	Evaluate applications and make grant awards	Local HIE planning	Local HIE implementation		
<b>White Space Coverage</b>		Develop and distribute RFP	Evaluate proposals and execute contracts	White space HIE implementation		

Table 12: Proposed HIE implementation timeline, 2012–2013

	2012				2013			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>General State-Level Services</b>	Develop shared state-level services	Implement shared state-level services	Operate shared state-level services					
<b>Local HIE Grant Programs</b>	Local HIE operations				Evaluation	Sustainability dialogue, development of sustainability model	Transition to sustainability	
<b>White Space Coverage</b>	White space HIE operations							

While the preceding timeline provides a good overview of the key activities and tasks, the list below outlines the key activities and milestones for the remainder of 2010 and all of 2011.

Table 13: 2010–2011 Work plan and milestones

Year	Month	Action/Event
2010	September	Develop request for application (RFA) for Local HIE Grant Program
		Develop request for information (RFI) to gather information on level of HIE services provided from large hospitals, IDNs, large physician practices, and other organizations that will not seek funding through the Local HIE Grant Program
		Coordinate with HHSC on procuring legal services, technical consulting, and public opinion services
	October	Release draft RFA for comment and conduct meeting with key stakeholder groups
		Draft MOU between HHSC and THSA relating to roles and responsibilities in administering the Local HIE Grant Program
	November	Identify three outside evaluators to review applications submitted in response to RFA
		Update THSA bylaws to align with strategic and operational plans (e.g., Collaboration Council and policy task forces)
		Develop request for proposal (RFP) for white space
		Release statement of work (SOW) for technical services to assist with the development of interoperability, technical standards, and other standards for local and regional HIE networks
		Finalize SOW and prepare legal services interagency contract to assist with ongoing analysis of privacy and security policies and standards, including trust agreements, consent form, and legal framework
	Finalize SOW and prepare public opinion research services interagency contract to determine how Texans feel about privacy and security	
	November 18: Conduct THSA Board of Directors meeting	

Year	Month	Action/Event
2010	December	December 7: Release Local HIE Grant Program RFA and RFI
		Evaluate technical consultant services proposals
		December 20: Conduct vendor conference on RFA
		December 23: Post responses to vendor questions about the RFA
		Release draft white space RFP for comment and conduct meeting with key stakeholder groups

Year	Month	Action/Event
2011	January	January 3: Deadline for Local HIE Grant Program applications
		Evaluate RFA applications
		Interview technical consultant service firms that respond to SOW, select final firm, and execute contract
		Execute privacy and security legal services and public opinion research services interagency contracts
		Present recommendation on Local HIE Grant Program applications to THSA Board of Directors
		Release white space RFP
		Tentative award announcement for Local HIE Grant Program
		Conduct privacy and security focus groups
	February	Conduct Collaboration Council and policy task force meetings
		Receive and evaluate RFP responses
		Provide final results, analysis, and recommendations from privacy and security focus groups
	March	March 10: Anticipated contract start date for Local HIE Grant Program Applicants must show proof of provider commitments (20% of hospitals and 20% of physicians)
		Conduct Collaboration Council and task force meetings
		Award white space contract(s)
	April	Conduct Collaboration Council and task force meetings
		Begin white space contract(s) implementation
	May	Conduct Collaboration Council and task force meetings
		Updated business and operational plan deadline for Local HIE Grant Program recipients that chose to submit an updated business and operational plan to the THSA
		Begin development/implementation of local and regional HIEs that submitted an updated business and operational plan to the THSA in May
		Provide the THSA Board of Directors with an update on local and regional HIE business and operational plans submitted in May

Year	Month	Action/Event
2011	June	Conduct Collaboration Council and task force meetings
		Monitor implementation of white space contract(s)
		Monitor local and regional HIE development/implementation
	July	Conduct Collaboration Council and policy task force meetings
		Business and operational plan deadline for Local HIE Grant Program recipients that chose to submit a full business and operational plan to the THSA
		Monitor implementation of white space contract(s)
		Monitor local and regional HIE development/implementation
		All Local HIE Grant Program recipients must show proof of provider commitments (40% of hospitals and 40% of physicians)
	August	Conduct Collaboration Council and task force meetings
		Begin development/implementation of local and regional HIEs that submitted a full business and operational plan to the THSA in July
		Monitor implementation of white space contract(s)
		Monitor local and regional HIE development/implementation
	September	Conduct Collaboration Council and task force meetings
		Monitor implementation of white space contract(s)
		Monitor local and regional HIE development/implementation
	October	Conduct Collaboration Council and task force meetings
		Conduct THSA Board of Directors meeting
		Monitor implementation of white space contract(s)
		Monitor local and regional HIE development/implementation
		All Local HIE Grant Program recipients must show proof of provider commitments (60% of hospitals and 60% of physicians)
	November	Conduct Collaboration Council and task force meetings
		Monitor implementation of white space contract(s)
		Monitor local and regional HIE development/implementation
	December	Conduct Collaboration Council and task force meetings
Monitor implementation of white space contract(s)		
Monitor local and regional HIE development/implementation		

The detailed project plan in the following section provides additional information on the tasks that must be completed to fully implement the Strategic and Operational plans.

## 9. Detailed Project Plan

ID	Task Name	Duration	Start	Finish
1	<b>Governance: State-level operations</b>	<b>814 days</b>	<b>Thu 7/1/10</b>	<b>Tue 12/31/13</b>
2	<b>HIE chartering &amp; operations</b>	<b>88 days</b>	<b>Thu 7/1/10</b>	<b>Thu 8/30/10</b>
3	Finalize definition/characteristics	66 days	Thu 7/1/10	Thu 9/30/10
4	Identify state HIE capability	66 days	Thu 7/1/10	Thu 9/30/10
5	Define maps	66 days	Thu 7/1/10	Thu 9/30/10
6	Define roles and responsibilities	1 day	Wed 7/28/10	Wed 7/28/10
7	<b>Establish oversight, accountability, and reporting</b>	<b>814 days</b>	<b>Thu 7/1/10</b>	<b>Tue 12/31/13</b>
8	Develop metrics for oversight, monitoring, and reporting of state-level governance, shared services, grant and white-space programs	66 days	Thu 7/1/10	Thu 9/30/10
9	Monitor and report on implementation of required state-level governance, shared services, grant and white-space programs	782 days	Mon 1/3/11	Tue 12/31/13
10	<b>Establish &amp; administer state-level governance</b>	<b>382 days</b>	<b>Wed 7/28/10</b>	<b>Thu 12/16/11</b>
11	<b>Finalize THSA &amp; Board</b>	<b>343 days</b>	<b>Wed 7/28/10</b>	<b>Fri 11/18/11</b>
12	Finalize role of THSA in establishing HIE services	1 day	Wed 7/28/10	Wed 7/28/10
13	Add any necessary board positions	66 days	Fri 10/1/10	Fri 12/31/10
14	Update THSA bylaws to align with strategic & operational plans	66 days	Mon 11/1/10	Mon 1/31/11
15	Conduct Board meeting	1 day	Thu 11/18/10	Thu 11/18/10
16	Conduct Board meeting	1 day	Fri 1/14/11	Fri 1/14/11
17	Conduct Board meeting	1 day	Fri 5/20/11	Fri 5/20/11
18	Conduct Board meeting	1 day	Fri 8/19/11	Fri 8/19/11
19	Conduct Board meeting	1 day	Fri 10/21/11	Fri 10/21/11
20	Conduct Board meeting	1 day	Fri 11/18/11	Fri 11/18/11
21	<b>Finalize legal, PR, and Consulting contract positions</b>	<b>86 days</b>	<b>Mon 8/9/10</b>	<b>Fri 12/31/10</b>
22	Coordinate with H-HSC on procuring legal services, technical consulting, and public opinion services	10 days	Mon 9/6/10	Fri 9/17/10
23	Define organizational structure	66 days	Fri 10/1/10	Fri 12/31/10
24	Define roles and responsibilities	66 days	Fri 10/1/10	Fri 12/31/10
25	Develop RFP process	66 days	Fri 10/1/10	Fri 12/31/10
26	Evaluate proposals	66 days	Fri 10/1/10	Fri 12/31/10
27	Select vendors and execute contracts	22 days	Mon 11/1/10	Tue 11/30/10
28	<b>Finalize general staff</b>	<b>88 days</b>	<b>Fri 10/1/10</b>	<b>Fri 12/31/10</b>
29	Define organizational structure	66 days	Fri 10/1/10	Fri 12/31/10
30	Establish roles and responsibilities	66 days	Fri 10/1/10	Fri 12/31/10
31	<b>Finalize Collaboration Councils &amp; Task Forces</b>	<b>316 days</b>	<b>Fri 10/1/10</b>	<b>Thu 12/16/11</b>
32	Define organizational structure	66 days	Fri 10/1/10	Fri 12/31/10
33	Finalize charter	66 days	Fri 10/1/10	Fri 12/31/10
34	Establish roles and responsibilities	66 days	Fri 10/1/10	Fri 12/31/10
35	Identify and recruit members	66 days	Fri 10/1/10	Fri 12/31/10
36	Present charter to board for approval	66 days	Fri 10/1/10	Fri 12/31/10
37	Establish meeting schedule	66 days	Fri 10/1/10	Fri 12/31/10
38	Conduct initial collaboration council and policy task force meetings	5 days	Mon 2/7/11	Fri 2/11/11
39	Conduct collaboration council and policy task force meeting	1 day	Thu 3/17/11	Thu 3/17/11
40	Conduct collaboration council and policy task force meeting	1 day	Thu 4/14/11	Thu 4/14/11
41	Conduct collaboration council and policy task force meeting	1 day	Thu 5/19/11	Thu 5/19/11
42	Conduct collaboration council and policy task force meeting	1 day	Thu 6/16/11	Thu 6/16/11
43	Conduct collaboration council and policy task force meeting	1 day	Thu 7/14/11	Thu 7/14/11
44	Conduct collaboration council and policy task force meeting	1 day	Thu 8/18/11	Thu 8/18/11
45	Conduct collaboration council and policy task force meeting	1 day	Thu 9/15/11	Thu 9/15/11
46	Conduct collaboration council and policy task force meeting	1 day	Thu 10/13/11	Thu 10/13/11
47	Conduct collaboration council and policy task force meeting	1 day	Thu 11/17/11	Thu 11/17/11
48	Conduct collaboration council and policy task force meeting	1 day	Thu 12/15/11	Thu 12/15/11
49	Identify stakeholders	66 days	Fri 10/1/10	Fri 12/31/10
50	Establish a communications plan	66 days	Fri 10/1/10	Fri 12/31/10
51	<b>Establish standards, policies, and interoperability</b>	<b>373 days</b>	<b>Wed 7/28/10</b>	<b>Fri 12/30/11</b>
52	<b>Identify technical interoperability standards and reference information model</b>	<b>242 days</b>	<b>Wed 7/28/10</b>	<b>Thu 8/30/11</b>
53	Commission technical consulting services to finalize technical standards	64 days	Wed 7/28/10	Mon 10/25/10
54	<b>Technical interoperability standards</b>	<b>86 days</b>	<b>Fri 4/1/11</b>	<b>Thu 8/30/11</b>
55	Identify and publish diagnostic test standards (LOINC)	65 days	Fri 4/1/11	Thu 6/30/11
56	Identify and publish diagnosis standards (ICD)	65 days	Fri 4/1/11	Thu 6/30/11
57	Identify and publish treatment standards (CPT)	65 days	Fri 4/1/11	Thu 6/30/11
58	Identify and publish messaging standards (HL7)	65 days	Fri 4/1/11	Thu 6/30/11
59	Identify and publish messaging standards (x12 835, 837)	65 days	Fri 4/1/11	Thu 6/30/11
60	Identify and publish messaging standards (IHE)	65 days	Fri 4/1/11	Thu 6/30/11
61	Identify and publish EMPI standards	65 days	Fri 4/1/11	Thu 6/30/11
62	Identify and publish security standards	65 days	Fri 4/1/11	Thu 6/30/11
63	Identify and publish NHIN standards	65 days	Fri 4/1/11	Thu 6/30/11
64	<b>Semantic interoperability standards</b>	<b>86 days</b>	<b>Fri 4/1/11</b>	<b>Thu 8/30/11</b>
65	Identify and publish SNOMED-CT standards	65 days	Fri 4/1/11	Thu 6/30/11

ID	Task Name	Duration	Start	Finish	
65	Process interoperability standards	66 days	Fri 4/1/11	Thu 6/30/11	2
67	Identify and publish SOA guidelines	65 days	Fri 4/1/11	Thu 6/30/11	
68	Identify and publish BPEL guidelines	65 days	Fri 4/1/11	Thu 6/30/11	
69	Identify privacy & security standards	306 days	Mon 11/1/10	Fri 12/30/11	
70	Identify consent standards	306 days	Mon 11/1/10	Fri 12/30/11	
71	Finalize SOW and prepare public opinion research services interagency contract to determine how Texans feel about privacy & security	22 days	Mon 11/1/10	Tue 11/30/10	
72	Finalize SOW and prepare legal services interagency contract to assist with ongoing analysis of privacy/security policies/standards	22 days	Mon 11/1/10	Tue 11/30/10	
73	Execute privacy & security legal services and public opinion research services interagency contracts	10 days	Mon 1/3/11	Fri 1/14/11	
74	Educate policy makers on consent options	64 days	Mon 1/3/11	Thu 3/31/11	
75	Adopt consent policy	64 days	Mon 1/3/11	Thu 3/31/11	
76	Develop universal consent form	64 days	Mon 1/3/11	Thu 3/31/11	
77	Conduct privacy & security focus groups	10 days	Mon 1/17/11	Fri 1/28/11	
78	Provide final results, analysis, and recommendations from privacy & security focus groups	15 days	Mon 1/31/11	Fri 2/18/11	
79	Educate HIEs, providers, and consumers on use	65 days	Fri 4/1/11	Thu 6/30/11	
80	Roll-out use of universal consent forms	153 days	Wed 6/1/11	Fri 12/30/11	
81	Identify trust standards	306 days	Mon 11/1/10	Fri 12/30/11	
82	Finalize SOW and prepare legal services interagency contract to support development of trust agreements	22 days	Mon 11/1/10	Tue 11/30/10	
83	Develop HIE trust agreements	64 days	Mon 1/3/11	Thu 3/31/11	
84	Educate HIEs, Providers, and consumers on use	65 days	Fri 4/1/11	Thu 6/30/11	
85	Roll-out use of trust agreements	153 days	Wed 6/1/11	Fri 12/30/11	
86	Identify mechanisms for sustainability	128 days	Mon 1/3/11	Thu 6/30/11	
87	Measure impact of HIE at the local and state levels	64 days	Mon 1/3/11	Thu 3/31/11	
88	Identify value of HIE	64 days	Mon 1/3/11	Thu 3/31/11	
89	Identify beneficiaries of HIE	64 days	Mon 1/3/11	Thu 3/31/11	
90	Develop sustainability models	65 days	Fri 4/1/11	Thu 6/30/11	
91	Develop business plans	65 days	Fri 4/1/11	Thu 6/30/11	
92	Develop interoperability/integration standards and scope	66 days	Fri 4/1/11	Thu 6/30/11	
93	Integration to state: Medicaid, DSHS, etc.	65 days	Fri 4/1/11	Thu 6/30/11	
94	Integration to stakeholders: RECs, private, not-for-profits, etc.	65 days	Fri 4/1/11	Thu 6/30/11	
95	Integration to national infrastructure: NHIN, DoD, VA, national registries, etc.	65 days	Fri 4/1/11	Thu 6/30/11	
96	Integration to ARRA programs	65 days	Fri 4/1/11	Thu 6/30/11	
97	Develop testing protocols	65 days	Fri 4/1/11	Thu 6/30/11	
98	Interconnect entities	65 days	Fri 4/1/11	Thu 6/30/11	
99	Establish regional/local HIE grant program	346 days	Mon 6/6/10	Fri 12/30/11	
100	Develop request for application (RFA) process for Local HIE Grant Program	18 days	Mon 9/6/10	Wed 9/29/10	
101	Develop request for information (RFI) process to gather info on level of HIE services provided by lg hospitals, IDNs, lg physician practices, and other orgs that will not seek funding through Local HIE Grant Program	18 days	Mon 9/6/10	Wed 9/29/10	
102	Identify minimum candidate criteria	66 days	Fri 10/1/10	Fri 12/31/10	
103	Release draft RFA for stakeholder feedback	11 days	Fri 10/1/10	Fri 10/15/10	
104	Conduct RFA feedback meeting with key stakeholders	1 day	Fri 10/15/10	Fri 10/15/10	
105	Draft MOU between HHSC and THSA regarding roles and responsibilities in administering Local HIE Grant Program	11 days	Fri 10/15/10	Fri 10/29/10	
106	Identify 3 outside evaluators for applications submitted in response to RFA	15 days	Mon 11/1/10	Fri 11/19/10	
107	Sign MOU between HHSC and THSA regarding roles and responsibilities in administering Local HIE Grant Program	1 day	Mon 11/22/10	Mon 11/22/10	
108	Release Local HIE Grant Program RFA and RFI	1 day	Tue 12/7/10	Tue 12/7/10	
109	Deadline for submission of intent to apply	23 days	Tue 12/14/10	Thu 1/13/11	
110	Conduct vendor conference on RFA	1 day	Mon 12/20/10	Mon 12/20/10	
111	Post responses to vendor questions about RFA	1 day	Thu 12/23/10	Thu 12/23/10	
112	Place open call for applications	64 days	Mon 1/3/11	Thu 3/31/11	
113	Deadline for Local HIE Grant Program applications	1 day	Mon 1/3/11	Mon 1/3/11	
114	Evaluate RFA applications	11 days	Mon 1/3/11	Mon 1/17/11	
115	Provide HIE Grant recommendations to THSA Board	1 day	Mon 1/17/11	Mon 1/17/11	
116	Deadline for RFI responses	1 day	Tue 1/18/11	Tue 1/18/11	
117	RFI response analysis	15 days	Tue 1/18/11	Mon 2/7/11	
118	Tentative award announcement for Local HIE Grant Program	1 day	Mon 1/24/11	Mon 1/24/11	
119	Anticipated contract start date for Local HIE Grant Program. Applicants must show proof of commitment from 20% of hospitals & 20% of physicians.	1 day	Thu 3/10/11	Thu 3/10/11	
120	Begin development/implementation efforts of HIEs that submitted updated business/operational plans	1 day	Mon 5/16/11	Mon 5/16/11	
121	HIE grant awardees updated business/operational plans deadline	1 day	Mon 5/16/11	Mon 5/16/11	
122	Provide update on local/regional HIEs business and operational plans to THSA Board	1 day	Thu 5/19/11	Thu 5/19/11	
123	Monitor local and regional HIE development/implementation	153 days	Wed 6/1/11	Fri 12/30/11	
124	HIE Grant awardee full business/operational plan deadline	1 day	Fri 7/22/11	Fri 7/22/11	

ID	Task Name	Duration	Start	Finish
125	All Local HIE Grant Program recipients must show proof of provider commitments (40% of hospitals & 40% of physicians)	1 day	Fri 7/22/11	Fri 7/22/11
126	Begin development/implementation efforts of HIEs that submitted full business/operational plans	1 day	Fri 8/5/11	Fri 8/5/11
127	All Local HIE Grant Program recipients must show proof of provider commitments (50% of hospitals & 60% of physicians)	1 day	Mon 10/10/11	Mon 10/10/11
128	<b>Establish a white-space strategy</b>	<b>687 days</b>	<b>Fri 10/1/10</b>	<b>Mon 12/31/12</b>
129	Place open calls for proposals	66 days	Fri 10/1/10	Fri 12/31/10
130	Develop request for proposal (RFP) process to provide HIE services	22 days	Mon 11/1/10	Tue 11/30/10
131	Release draft white space RFP for comment	13 days	Wed 12/1/10	Fri 12/17/10
132	Conduct meeting with key stakeholder groups	1 day	Fri 12/17/10	Fri 12/17/10
133	Release white space RFP	1 day	Fri 1/7/11	Fri 1/7/11
134	Receive and evaluate RFP responses	11 days	Mon 2/7/11	Mon 2/21/11
135	Present white space recommendations to THSA board	1 day	Fri 3/18/11	Fri 3/18/11
136	Award white space contract(s)	1 day	Mon 3/21/11	Mon 3/21/11
137	Begin white space contract(s) implementation	1 day	Mon 4/4/11	Mon 4/4/11
138	Monitor implementation of white space contract(s)	150 days	Mon 6/5/11	Fri 12/30/11
139	Sustainability development	65 days	Mon 7/2/12	Fri 9/28/12
140	Transition to sustainability	67 days	Fri 9/28/12	Mon 12/31/12
141	<b>Consumer engagement</b>	<b>848 days</b>	<b>Fri 10/1/10</b>	<b>Tue 12/31/13</b>
142	Monitor opportunities for collaboration	88 days	Fri 10/1/10	Fri 12/31/10
143	Engage HIE Information Security and Privacy Coalition	21 days	Fri 10/1/10	Fri 10/29/10
144	Engage state HIEs to review lessons learned	66 days	Fri 10/1/10	Fri 12/31/10
145	Engage state HIEs to develop consistent message and leverage early successes	66 days	Fri 10/1/10	Fri 12/31/10
146	<b>Work with consumer advocate groups</b>	<b>130 days</b>	<b>Fri 10/1/10</b>	<b>Thu 3/31/11</b>
147	Identify and engage state advocacy groups to develop and deploy engagement strategy	66 days	Fri 10/1/10	Fri 12/31/10
148	Collaborate on development of communication tools and processes	87 days	Wed 12/1/10	Thu 3/31/11
149	<b>Consumer engagement and communication plan</b>	<b>195 days</b>	<b>Fri 10/1/10</b>	<b>Thu 6/30/11</b>
150	Identify and contact consumer advocacy groups to facilitate planning and outreach	21 days	Fri 10/1/10	Fri 10/29/10
151	Conduct focus groups to identify key consumer expectations and concerns	86 days	Mon 11/1/10	Mon 2/28/11
152	Review recommended consumer engagement and communication strategies	44 days	Tue 3/1/11	Fri 4/29/11
153	Prioritize strategies based on available resources and estimated impact	44 days	Mon 5/2/11	Thu 6/30/11
154	<b>Marketing plan</b>	<b>848 days</b>	<b>Fri 10/1/10</b>	<b>Tue 12/31/13</b>
155	Develop and submit RFP for marketing support	66 days	Fri 10/1/10	Fri 12/31/10
156	Evaluate responses and select vendor	64 days	Mon 1/3/11	Thu 3/31/11
157	Engage vendor and develop marketing materials	65 days	Fri 4/1/11	Thu 6/30/11
158	Market and promote THSA and state HIE plan and activities	653 days	Fri 7/1/11	Tue 12/31/13
159	<b>Provider adoption</b>	<b>848 days</b>	<b>Fri 10/1/10</b>	<b>Tue 12/31/13</b>
160	<b>Communication Plan</b>	<b>298 days</b>	<b>Fri 10/1/10</b>	<b>Wed 8/31/11</b>
161	Identify and contact professional organizations to facilitate planning and outreach	66 days	Fri 10/1/10	Fri 12/31/10
162	Develop adoption education strategy and tools	64 days	Mon 1/3/11	Thu 3/31/11
163	Review recommended strategies with stakeholders	65 days	Fri 4/1/11	Thu 6/30/11
164	Prioritize strategy and approach based on available resources	44 days	Fri 7/1/11	Wed 8/31/11
165	<b>Engage key stakeholders</b>	<b>88 days</b>	<b>Fri 10/1/10</b>	<b>Fri 12/31/10</b>
166	Identify and engage state professional agencies to solicit regional representation for governance	43 days	Fri 10/1/10	Tue 11/30/10
167	Charter key physician representation in all levels of HIE governance	45 days	Mon 11/1/10	Fri 12/31/10
168	<b>Quality Assurance</b>	<b>782 days</b>	<b>Mon 1/3/11</b>	<b>Tue 12/31/13</b>
169	Engage THSA governance committees to develop benefit realization program	64 days	Mon 1/3/11	Thu 3/31/11
170	Review proposed approach with board	43 days	Fri 4/1/11	Tue 5/31/11
171	Amend proposed benefit realization program to meet approval	22 days	Wed 6/1/11	Thu 6/30/11
172	Deploy and manage program	21 days	Fri 7/1/11	Fri 7/29/11
173	Communicate program successes and benefits to provider stakeholders and consumers	632 days	Mon 8/1/11	Tue 12/31/13
174	<b>Establish &amp; administer state-level shared services</b>	<b>561 days</b>	<b>Mon 11/22/10</b>	<b>Mon 12/31/12</b>
175	<b>Execute procurement process for equipment/services required to support statewide HIE /white spaces</b>	<b>61 days</b>	<b>Mon 11/22/10</b>	<b>Mon 1/31/11</b>
176	Release SOW for technical services to assist development of standards for local/regional HIEs	6 days	Mon 11/22/10	Mon 11/29/10
177	Evaluate technical consultant proposals	31 days	Mon 12/20/10	Mon 1/31/11
178	Interview technical consultant service firms that respond to SOW, select final firm, execute contract	10 days	Mon 1/3/11	Fri 1/14/11
179	<b>Establish state-level technical infrastructure</b>	<b>43 days</b>	<b>Tue 2/1/11</b>	<b>Thu 3/31/11</b>
180	Hardware infrastructure	43 days	Tue 2/1/11	Thu 3/31/11
181	Software infrastructure	43 days	Tue 2/1/11	Thu 3/31/11
182	Network infrastructure	43 days	Tue 2/1/11	Thu 3/31/11
183	Security infrastructure	43 days	Tue 2/1/11	Thu 3/31/11
184	Commission technical consulting services to finalize record locator services architecture	65 days	Mon 1/2/12	Fri 3/30/12
185	Commission technical consulting to finalize provider directory services architecture	65 days	Mon 1/2/12	Fri 3/30/12

ID	Task Name	Duration	Start	Finish
186	Commission technical consulting services to finalize NHIN connectivity architecture	65 days	Mon 1/2/12	Fri 3/30/12
187	Implement state-level shared services	65 days	Mon 4/2/12	Fri 6/29/12
188	<b>Testing</b>	<b>18 days</b>	<b>Tue 6/1/12</b>	<b>Fri 6/26/12</b>
189	<b>Statewide</b>	<b>9 days</b>	<b>Tue 6/1/12</b>	<b>Fri 6/11/12</b>
190	Test statewide MPI formulation	9 days	Tue 5/1/12	Fri 5/11/12
191	Test statewide record locator services	9 days	Tue 5/1/12	Fri 5/11/12
192	Test statewide provider directory services	9 days	Tue 5/1/12	Fri 5/11/12
193	Test statewide e-prescribe	9 days	Tue 5/1/12	Fri 5/11/12
194	Test statewide lab results	9 days	Tue 5/1/12	Fri 5/11/12
195	Test statewide clinical	9 days	Tue 5/1/12	Fri 5/11/12
196	Test statewide replication services	9 days	Tue 5/1/12	Fri 5/11/12
197	Test statewide portal	9 days	Tue 5/1/12	Fri 5/11/12
198	Electronic eligibility and claims transactions	9 days	Tue 5/1/12	Fri 5/11/12
199	Electronic prescribing and refill requests	9 days	Tue 5/1/12	Fri 5/11/12
200	Electronic clinical laboratory ordering and results delivery	9 days	Tue 5/1/12	Fri 5/11/12
201	Electronic public health reporting (i.e., immunizations, notifiable laboratory results)	9 days	Tue 5/1/12	Fri 5/11/12
202	Quality reporting	9 days	Tue 5/1/12	Fri 5/11/12
203	Prescription fill status and/or medication fill history	9 days	Tue 5/1/12	Fri 5/11/12
204	Clinical summary exchange for care coordination and patient engagement	9 days	Tue 5/1/12	Fri 5/11/12
205	<b>National tests</b>	<b>6 days</b>	<b>Mon 6/14/12</b>	<b>Fri 6/18/12</b>
206	Test NHIN integration	5 days	Mon 5/14/12	Fri 5/18/12
207	Test Medicaid integration	5 days	Mon 5/14/12	Fri 5/18/12
208	Test VA integration	5 days	Mon 5/14/12	Fri 5/18/12
209	Test DOD integration	5 days	Mon 5/14/12	Fri 5/18/12
210	Test HHS integration	5 days	Mon 5/14/12	Fri 5/18/12
211	<b>Interstate statewide (NM, etc)</b>	<b>6 days</b>	<b>Mon 6/21/12</b>	<b>Fri 6/26/12</b>
212	Test statewide MPI formulation	5 days	Mon 5/21/12	Fri 5/25/12
213	Test statewide record locator services	5 days	Mon 5/21/12	Fri 5/25/12
214	Test NHIN integration	5 days	Mon 5/21/12	Fri 5/25/12
215	Operate state-level shared services	131 days	Mon 7/2/12	Mon 12/31/12
216	<b>Governance - Regional/Local Level Operations</b>	<b>848 days</b>	<b>Fri 10/1/10</b>	<b>Tue 12/31/13</b>
217	<b>Charter regional/local HIEs</b>	<b>328 days</b>	<b>Fri 10/1/10</b>	<b>Fri 12/30/11</b>
218	Define roles	66 days	Fri 10/1/10	Fri 12/31/10
219	Define sustainability	66 days	Fri 10/1/10	Fri 12/31/10
220	Define governance	66 days	Fri 10/1/10	Fri 12/31/10
221	Define policies and procedures	66 days	Fri 10/1/10	Fri 12/31/10
222	Conduct system/technology selection	66 days	Fri 10/1/10	Fri 12/31/10
223	Identify data sources & partners	66 days	Fri 10/1/10	Fri 12/31/10
224	<b>Identify priority core services/transactions</b>	<b>328 days</b>	<b>Fri 10/1/10</b>	<b>Fri 12/30/11</b>
225	Electronic prescribing	66 days	Fri 10/1/10	Fri 12/31/10
226	Electronic laboratory ordering and results delivery	66 days	Fri 10/1/10	Fri 12/31/10
227	Electronic exchange of clinical summaries	66 days	Fri 10/1/10	Fri 12/31/10
228	Develop metrics for oversight of the implementation of core services/transactions	66 days	Fri 10/1/10	Fri 12/31/10
229	Monitor implementation of core services/transactions	260 days	Mon 1/3/11	Fri 12/30/11
230	<b>Oversight, Accountability, and Reporting</b>	<b>328 days</b>	<b>Fri 10/1/10</b>	<b>Fri 12/30/11</b>
231	Develop metrics for oversight, monitoring, and reporting of required standards, policies, and sustainability	66 days	Fri 10/1/10	Fri 12/31/10
232	Monitor and report on implementation of required standards, policies and sustainability	153 days	Wed 6/1/11	Fri 12/30/11
233	<b>Operate regional/local HIEs</b>	<b>718 days</b>	<b>Fri 4/1/11</b>	<b>Tue 12/31/13</b>
234	<b>Upgrade or implement regional/local infrastructure</b>	<b>181 days</b>	<b>Fri 4/1/11</b>	<b>Fri 9/30/11</b>
235	<b>Regional HIE 1 Stand-Up (Model to be applied to each funded HIE)</b>	<b>181 days</b>	<b>Fri 4/1/11</b>	<b>Fri 9/30/11</b>
236	<b>Planning</b>	<b>181 days</b>	<b>Fri 4/1/11</b>	<b>Fri 9/30/11</b>
237	Kickoff Communication	5 days	Fri 4/1/11	Fri 4/8/11
238	<b>Regional HIE Project Planning</b>	<b>80 days</b>	<b>Fri 4/8/11</b>	<b>Thu 6/30/11</b>
239	Establish executive summary	60 days	Fri 4/8/11	Thu 6/30/11
240	Verify / Establish charter	60 days	Fri 4/8/11	Thu 6/30/11
241	Verify / Establish mission	60 days	Fri 4/8/11	Thu 6/30/11
242	Verify / Establish organizational plan	60 days	Fri 4/8/11	Thu 6/30/11
243	Verify / Establish functional requirements	60 days	Fri 4/8/11	Thu 6/30/11
244	Verify / Establish communication plan	60 days	Fri 4/8/11	Thu 6/30/11
245	Verify / Establish funding	60 days	Fri 4/8/11	Thu 6/30/11
246	Verify / Establish time line	60 days	Fri 4/8/11	Thu 6/30/11
247	Verify / Establish roles and responsibilities	60 days	Fri 4/8/11	Thu 6/30/11
248	Verify / Establish sustainability model	60 days	Fri 4/8/11	Thu 6/30/11
249	Verify / Establish staffing	60 days	Fri 4/8/11	Thu 6/30/11
250	<b>Design</b>	<b>48 days</b>	<b>Wed 6/1/11</b>	<b>Fri 7/29/11</b>
251	Establish technical infrastructure	43 days	Wed 6/1/11	Fri 7/29/11

ID	Task Name	Duration	Start	Finish	
252	Hardware infrastructure	43 days	Wed 6/1/11	Fri 7/29/11	2
253	Software infrastructure	43 days	Wed 6/1/11	Fri 7/29/11	
254	Network infrastructure	43 days	Wed 6/1/11	Fri 7/29/11	
255	Security infrastructure	43 days	Wed 6/1/11	Fri 7/29/11	
256	Development	48 days	Wed 6/1/11	Fri 7/29/11	
257	Provide THSA oversight and consulting services	43 days	Wed 6/1/11	Fri 7/29/11	
258	Provide RLS and EMPI consulting services	43 days	Wed 6/1/11	Fri 7/29/11	
259	Develop HL7 internal standards	43 days	Wed 6/1/11	Fri 7/29/11	
260	Provider Integration	24 days	Fri 7/29/11	Wed 8/31/11	
261	Provider 1	24 days	Fri 7/29/11	Wed 8/31/11	
262	Mappings	24 days	Fri 7/29/11	Wed 8/31/11	
263	Adapters	24 days	Fri 7/29/11	Wed 8/31/11	
264	Translators	24 days	Fri 7/29/11	Wed 8/31/11	
265	Provider 2 . . . (Repeat for as many providers as needed)	24 days	Fri 7/29/11	Wed 8/31/11	
266	Mappings	24 days	Fri 7/29/11	Wed 8/31/11	
267	Adapters	24 days	Fri 7/29/11	Wed 8/31/11	
268	Translators	24 days	Fri 7/29/11	Wed 8/31/11	
269	Testing	22 days	Thu 8/1/11	Fri 8/30/11	
270	Electronic eligibility and claims transactions	22 days	Thu 9/1/11	Fri 9/30/11	
271	Electronic prescribing and refill requests	22 days	Thu 9/1/11	Fri 9/30/11	
272	Electronic clinical laboratory ordering and results delivery	22 days	Thu 9/1/11	Fri 9/30/11	
273	Electronic public health reporting (i.e., immunizations, notifiable laboratory results)	22 days	Thu 9/1/11	Fri 9/30/11	
274	Quality reporting	22 days	Thu 9/1/11	Fri 9/30/11	
275	Prescription fill status and/or medication fill history	22 days	Thu 9/1/11	Fri 9/30/11	
276	Clinical summary exchange for care coordination and patient engagement	22 days	Thu 9/1/11	Fri 9/30/11	
277	Test HIE to HIE interoperability	22 days	Thu 9/1/11	Fri 9/30/11	
278	Test RLS	22 days	Thu 9/1/11	Fri 9/30/11	
279	Test EMPI	22 days	Thu 9/1/11	Fri 9/30/11	
280	Test NHIN integration	22 days	Thu 9/1/11	Fri 9/30/11	
281	Test statewide integration	22 days	Thu 9/1/11	Fri 9/30/11	
282	Implement required policies and standards	152 days	Fri 4/1/11	Mon 10/31/11	
283	Implementation sustainability models	174 days	Tue 11/1/11	Fri 6/29/12	
284	Transition to sustainability	352 days	Mon 7/2/12	Tue 12/31/13	

## 10. Coordination with ARRA Programs

Through the Office of e-Health Coordination (OeHC), the THSA and state Medicaid IT program, are working closely with participants in other federal health IT initiatives to support provider adoption of electronic health records (EHRs) and to support statewide HIE. The OeHC hosts weekly calls with Medicaid, THSA, and RECs. The Texas SHARP, health IT workforce, and FQHC infrastructure grant recipients participate in these calls on a monthly basis.

- ❑ **Provider adoption:** Texas RECs will facilitate and support EHR adoption and meaningful use through education and outreach. The University of Texas Health Science Center at Houston is using Strategic Health IT Advanced Research Projects (SHARP) programs to research patient-centered cognitive support. The Texas Association of Community Health Centers, Lone Star Circle of Care, and Barrio Comprehensive Family Health Care Center received grants from the Health Resources and Services Administration to increase adoption of EHRs and other health IT systems.
- ❑ **Federal workforce development:** The THSA will collaborate with Texas Workforce Commission (TWC) and leverage TWC's ability to assist with the training and recruitment needs for health care providers in Texas. Texas State University is using funding through the Program of Assistance for University Based Training to increase the availability of individuals qualified to serve as health IT professionals. The THSA will also coordinate with Midland Community College, Houston Community College, and Dallas Community College. These community colleges are partnering with Pitt College in North Carolina to use Community College Consortium funding to establish or expand health information technology education programs in Texas.
- ❑ **Broadband access:** Connected Texas and Texas Health Information Network Collaborative (THINC) are two organizations currently working to expand the broadband availability to all areas of Texas and to prioritize deployment to ensure the needs of health care participants are met on a timely basis.

### 10.1 Coordination with Medicaid HIT Planning and Other State Agency HIT Initiatives

The OeHC at the HHSC will also act as the state HIT coordinator for the purposes of this program and will serve as the primary point of coordination from the state agency perspective. The state Medicaid division also resides in HHSC, which will enable the OeHC to serve as the primary point of coordination between the development of the state HIE plans through this program and the development of the State Medicaid Health IT Plan (SMHP). In addition, because HHSC serves as the umbrella agency for state health and human services (HHS) programs, the numerous other health IT and HIE initiatives being developed or proposed at the state level will also be coordinated with the state HIE and state Medicaid health IT planning processes through the OeHC. Members of the Medicaid HIT planning team served on each of the THSA workgroups, and the State HIT Coordinator serves on the steering committee for the Medicaid HIT planning effort.

The State HIT Coordinator will also help to develop HIT policy to support statewide goals, with a particular emphasis on achieving statewide HIE meaningful use requirements associated with electronic prescribing, electronic ordering and results delivery for clinical lab tests, and exchange of clinical summaries.

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## 10.2 Coordination with Federal Health IT Initiatives

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Coordination with federal partners will primarily be managed through and by the Director of the OeHC. In addition to direct communication with the ONC and Centers for Medicare and Medicaid Services (CMS) central office regarding our progress with the implementation process, the THSA and OeHC will communicate with and invite staff from the regional CMS office and local VHA health care officials/staff to participate in the implementation process. It should be noted that Texas has three tribal clinics and one Indian Health Service (IHS) urban clinic, but no federally administered IHS facilities. The Texas tribal population is very small, consisting of four Native American tribes which operate tribal clinics. HHSC will continue to reach out to the tribes for inclusion in health IT initiatives.

The director of OeHC will also serve as the primary point of contact with the ONC, while the Medicaid Health IT Director will serve as the primary point of contact with CMS for the purposes of the Medicaid health IT planning and implementation. Through the OeHC, the state HIE implementation process and state Medicaid health IT planning and implementation process will also be coordinated with participants in other federal health IT initiatives such as the RECs, SHARP and health IT workforce grant recipients, and potential recipients of Beacon. The OeHC hosts weekly calls with Medicaid, the THSA, and the RECs. The Texas SHARP, health IT workforce, and FQHC infrastructure grant recipients participate in these calls on a monthly basis.

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## 10.3 Coordination with Local HIE Initiatives in Texas

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The statewide HIE implementation process will include participation from, and coordination with individuals and groups involved in local HIE initiatives in Texas by participating on the THSA Collaboration Council (see Strategic Plan Section 4.4.1, Governance), direct communication among individual HIEs and the OeHC, and communication among the THSA, OeHC, and the Texas HIE Coalition.

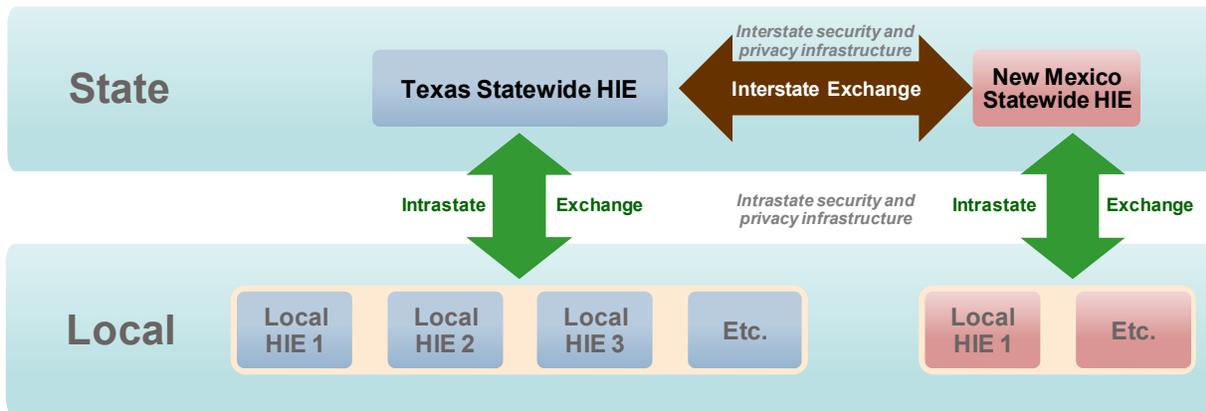
## 11. Coordination with Other States

Texas recognizes the importance of establishing trust or data sharing agreements with other states for the use and disclosure of an individual’s protected health information. Texas will meet with its border states to begin discussions of sharing information with other states that treat a subset of the same patient population. Any formalized partnerships between any of these states for HIE will require planning by stakeholders at the local, regional, and state levels. Some members must have the legal and policy backgrounds to inform the THSA on a variety of issues including the differences in state privacy, consent, and security laws.

The OeHC, Texas Medicaid, and the THSA have been in contact with neighboring states to discuss their experiences with HIE planning and implementation to better understand their approaches and timelines for statewide HIE. During these interactions Texas has learned many important lessons which it has applied to its overall strategy and operational plans. Texas plans to build on these relationships in order to provide cooperative and seamless HIE mechanizations for care that is provided or received across borders.

Texas may consider participating in the NHIN trial implementation project, where work has been done to develop a data use and reciprocal support agreement for HIEs participating in the NHIN.

Figure 28: Coordination with other states



## 12. Domain-Specific Components: Governance

### 12.1 Governance Entity

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The THSA was created by the Texas Legislature in 2007 through House Bill 1066 as a public-private partnership focused on promoting and coordinating HIE statewide, but was never supplied any seed funding to get started. The THSA was legally structured through its statutory constitution as a nonprofit corporation with a broadly representative board appointed by the Governor with the advice and consent of the Senate. The board was appointed in 2008 and met several times during the course of late 2008 and early 2009 to evaluate opportunities for developing clinical use cases and value propositions around HIE that might allow for a bootstrapped start-up and sustainable operations. With the passage of the American Recovery and Reinvestment Act (ARRA), the THSA re-oriented its planning activities around the program that eventually was to emerge from Section 3013.

The THSA is governed by a 13-member board, the composition of which is outlined in statute. It is required to be a multi-stakeholder group of individuals who represent consumers, clinical laboratories, health benefit plans, hospitals, regional health information exchange initiatives, pharmacies, physicians, and rural health providers. The Board's Chair, Ed Marx and THSA's Chief Executive Officer, Tony Gilman, and his staff oversee the daily operations. The 2010 THSA board members are:

- ❑ **Edward W. Marx, Chair:** Mr. Marx of Colleyville is chief information officer of Texas Health Resources. He served in the U.S. Army and received a bachelor's degree and a master's degree from Colorado State University.
- ❑ **Kathleen K. Mechler, Vice Chair:** Ms. Mechler of Fredericksburg is a registered nurse and co-director and chief operating officer of Texas A&M Health Science Center Rural and Community Health Institute. She served in the U.S. Air Force and received a bachelor's degree and master's degree in administration from Texas State University.
- ❑ **Matthew Hamlin, Treasurer:** Mr. Hamlin of Argyle is regional vice president of Quest Diagnostics. He received a bachelor's degree from Ohio Wesleyan University and a master's of business administration from George Washington University.
- ❑ **Alesha R. Adamson, Secretary:** Ms. Adamson of San Antonio is a member of the leadership team at Open Health Tools. She served in the Oregon Army National Guard and received a bachelor's degree and a master's degree in computer science and information assurance from Portland State University.
- ❑ **Fred Buckwold, MD, FACP:** Dr. Buckwold of Houston is Vice President - Medical Affairs for Community Health Choice in Houston. He received a medical degree from McMaster University. He is board certified in Internal Medicine, Infectious Diseases, and Quality Assurance and Utilization Review.
- ❑ **Raymond F. Davis:** Mr. Davis of El Paso is employed by Perot Systems Corporation and serves as chief information officer at Sierra Providence Health Network. He received a bachelor's degree from the University of Texas at El Paso.
- ❑ **David C. Fleeger:** Dr. Fleeger of Austin is a surgeon at Central Texas Colon and Rectal Clinic. He received a bachelor's degree from Baylor University and a medical degree from Texas A&M University.

- ❑ **Donna Montemayor:** Ms. Montemayor of San Antonio is senior director of pharmacy corporate operations for H-E-B. She is a member of the Bexar County Pharmacy Association, Texas Pharmacy Association and University of Texas Pharmacy Alumni Association. She is also a member of the Texas Federation of Drugstores Board of Directors and National Association of Chain Drug Stores, and is chair of the H-E-B Good Living Expo. Ms. Montemayor received a bachelor's degree from the University of Texas at Austin.
- ❑ **Judy Powell:** Ms. Powell of The Woodlands is a community volunteer and former chair of the Texas State Board of Professional Counselors. She received a bachelor's degree from Wesleyan College and attended the University of Tennessee for graduate studies.
- ❑ **J. Darren Rodgers:** Mr. Rodgers of Dallas is president of Blue Cross and Blue Shield of Texas. He received a bachelor's degree from the University of Georgia, a master's degree in liberal arts from Duke University, a master's of business administration from Tulane University, and a master's degree in dispute resolution from Southern Methodist University.
- ❑ **Stephen Yurco:** Dr. Yurco of Austin is a partner at Clinical Pathology Associates. He received a bachelor's degree and a medical degree from Northwestern University, and a master's of business administration from the University of Houston.
- ❑ **Dee F. Porter:** Ms. Porter of Austin is chief operating officer of the Texas Department of State Health Services. She received a bachelor's degree from the University of Oklahoma and attended the Oklahoma City University Meinders School of Business. She serves as an ex-officio member on the board.
- ❑ **Adolfo Valadez:** Dr. Valadez of Austin is an assistant commissioner of Prevention and Preparedness Services at the Texas Department of State Health Services. He received two bachelor's degrees from the University of Texas, a medical degree from the University of Texas Medical Branch at Galveston, and a master's degree in public health from the Harvard University School of Public Health. He serves as an ex-officio member on the board.

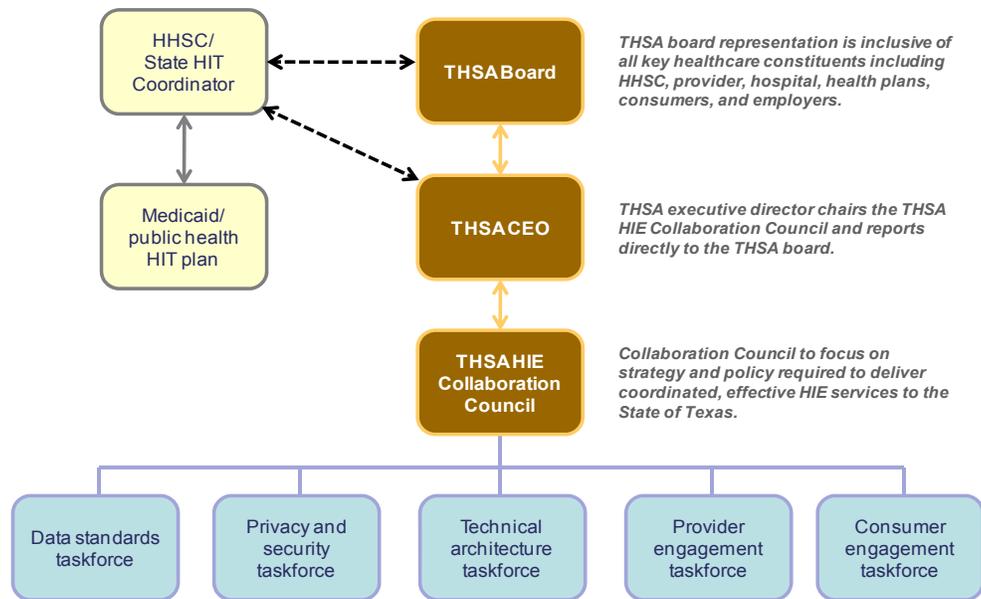
## 12.2 Governance Approach

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In order for the THSA to achieve its objectives and the objectives required by the ONC, Texas will implement the following structure to support input from regional and local HIEs into the strategy and policy for HIE deployment within the State of Texas. Task forces will be created to monitor ongoing developments related to HIE capabilities including data standards, security, and technical architecture. This ground-level input will be reviewed by a Collaboration Council chaired by the CEO of the THSA. The Collaboration Council will help provide oversight of the implementation of HIEs within the state and provide strategy and policy recommendations to the THSA Board for approval.

The makeup of the proposed governance structure is shown in the following organizational chart:

Figure 29: Proposed THSA and HHSC organizational chart



The Collaboration Council members include:

Table 14: Collaboration Council membership

Council Representative	Role
THSA CEO	Council chair, reports to the THSA Board
HIE representatives	One representative per sanctioned regional/local HIE Provide input from regional/local HIEs to ensure coordinated approach to HIE implementation and operations within the State of Texas
HIT Coordinator	Provides linkage to state Health Information Technology (HIT) plan
Public health (DSHS)	One individual to represent the interests of public health
Provider representative	One individual designated by the Texas Medical Association
Hospital representative	One individual designated by the Texas Hospital Association
Health plan representative	One individual designated by the Health Plan Association
Consumer representative	One individual to represent the interests of the consumer in HIE
REC representatives	One individual per approved REC to represent the interests of their constituents
Employer representative	One individual designated by THSA Board

### 13. Domain-Specific Components: Finance

Based upon the direction outlined by the ONC, the THSA and eligible regional/local HIEs will be required to establish a plan that transitions from ONC funding at the completion of 2013.

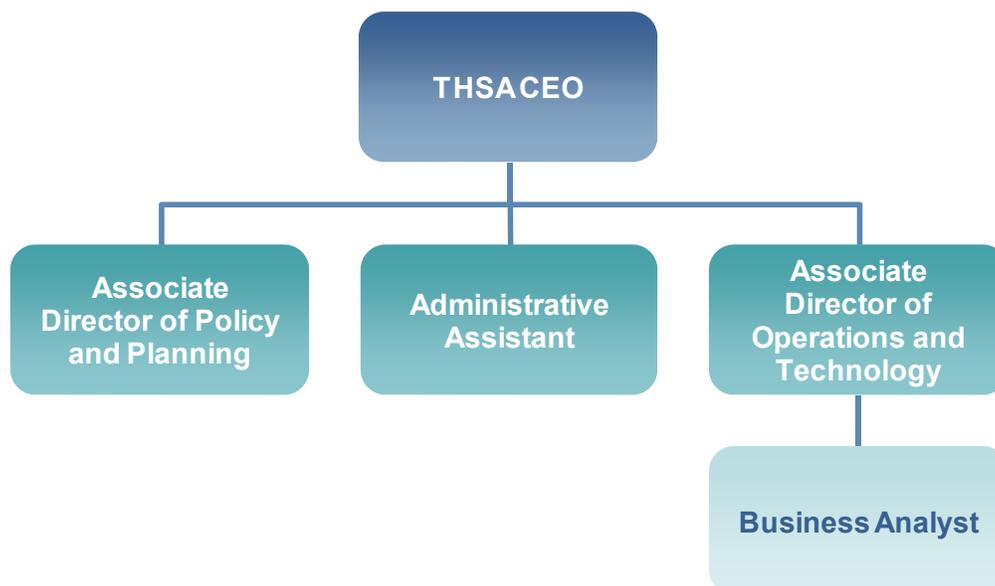
It is THSA’s intent to be fully sustainable by the end of 2013 and we will work with each recognized local HIE to establish a sustainability approach that supports the key principles discussed above and supports a transition from grant funding to fully sustainable operations. As highlighted in the sustainability principles it is anticipated that revenue streams will be established and grow as capabilities and services are delivered over time.

The main function of the THSA will be to provide the convening, collaborating and oversight roles as required by the ONC. Specific activities that THSA will support include:

- ❑ THSA management and Board activities
- ❑ Oversight and management of the Collaboration Council
- ❑ Co-chairing and coordination of all required taskforces
- ❑ Certification or HIE chartering process
- ❑ Development and implementation of shared state-level services, potentially including a state-level service to provide white space coverage
- ❑ Fiduciary responsibilities as per ONC guidelines
- ❑ Compliance and oversight roles

It is the intent of the THSA to only staff for those functions as well as leverage resources available through the State to help manage the ONC funding and support the coordination of Strategic and Operational plans with the HIT plan for Medicaid.

Figure 30: Proposed THSA staffing structure



Implementation of the Strategic and Operational plans will be staffed and coordinated by the Office of e-Health Coordination (OeHC) at HHSC, the THSA, and contracted consultants. The OeHC will have a director and two business analysts. The business analysts will assist with overseeing the grants to local/regional HIEs. The THSA will have an executive director, an associate director for technology and operations, and associate director for policy and planning, a business analyst, and an administrative support position. The THSA will contract for accounting and legal services in addition to consulting services as necessary to support statewide HIE implementation.

### Roles and Responsibilities

- ❑ The **THSA CEO** is responsible for the development and achievement of the THSA Strategic and Operational plans.
- ❑ The **Administrative Assistant** position shall be responsible for overall front office activities, including phones, mail, large purchasing requests and facilities. This position will also be responsible for directing and coordinating office services and related activities, including assisting with the development and implementation of administrative policies and procedures, such as human resources, procurement, and other administrative services.
- ❑ The **Associate Director of Policy and Planning** shall be responsible for monitoring health information technology and HIE policy development at the state and federal level. The Associate Director shall coordinate effectively with stakeholders, agencies, and legislative offices. This position will also assist with facilitating the Collaboration Council and task forces.
- ❑ The **Associate Director of Operations and Technology** shall be responsible for providing direction and guidance on all operational and administrative functions of the THSA. Duties and responsibilities include assisting with the administration of the budget for the THSA, the development of long-term business plans, and with the formulation of internal financial and operations policies and procedures. The Associate Director shall also assist with managing the daily operations of the THSA by coordinating effectively with communities and stakeholders on HIE technical architecture and shared state-level HIE services.
- ❑ The **Business Analyst** shall be responsible with working with the Associate Director of Operations and Technology and HHSC on grants to local HIEs and other HIE service-related contracts.

A key responsibility of the THSA staff will be ensuring the success of regional/local HIEs within Texas. It is the intent of the THSA to develop and release a Request for Applications in the third quarter of calendar year 2010 based upon the acceptance by the ONC of the submitted Strategic and Operations Plans for the State of Texas. The funding request is intended to support the development of regional/local HIE plans. In addition to providing funding THSA staff will:

- ❑ Collaborate with the regional/local HIEs to finalize their individual plans
- ❑ Help develop a specific value proposition
- ❑ Work to involve statewide organizations in the model

The funding request will be judged against the requirements outlined by the ONC and the requirements outlined above. Each regional/local HIE will be required to present a sustainability approach and plan. The plans should:

- ❑ Align with the THSA sustainability guiding principles
- ❑ Identify constituent value propositions
- ❑ Identify funding participants and methodology
- ❑ Identify a transition plan to a fully funded HIE

### 13.1 Proposed Budget

Table 15: General state-level operations

Program Year	2010*	2011	2012	2013	Total
<b>General State-Level Operations</b>					
THSA Admin	\$1,319,761	\$760,754	\$760,755	\$760,755	\$3,602,025
OeHC Admin**	\$97,183	\$130,000	\$130,000	\$130,000	\$487,183
Legal Services	\$95,000	\$100,000	\$92,000	\$67,000	\$354,000
Public Opinion Research	\$100,000	\$100,000	\$100,000	\$100,000	\$400,000
Technical Consulting	\$100,000	\$142,000	\$125,000	\$100,000	\$467,000
State-Level HIE Services (RLS + PDS + NHIN)	\$0	\$0	\$500,000	\$1,000,000	\$1,500,000
Evaluation	\$0	\$0	\$0	\$500,000	\$500,000
<b>Subtotal: General State-Level Operations</b>	\$1,711,944	\$1,232,754	\$1,707,755	\$2,657,755	\$7,310,208

\* Includes a transition from planning to implementation

\*\* The salary for the State HIT Coordinator is supported through another source of funding

Table 16: Local HIE (base)

Program Year	2010	2011	2012	2013	Total
<b>Local HIE (Base)</b>					
Local HIE services (Core HIE services)	\$1,500,000	\$0	\$0	\$0	\$1,500,000
<b>Subtotal: Local HIE (Base)</b>	\$1,500,000	\$0	\$0	\$0	\$1,500,000

Table 17: White space coverage (base)

Program Year	2010	2011	2012	2013	Total
<b>White Space Coverage (Base)</b>					
Non-geographic, local HIE services (Core HIE services)	\$1,000,000	\$500,000	\$500,000	\$0	\$2,000,000
<b>Subtotal: White Space Coverage (Base)</b>	\$1,000,000	\$500,000	\$500,000	\$0	\$2,000,000

Table 18: Proportional funding for local HIE grant program and white space coverage

	2010	2011	2012	2013	All Years
<b>Proportional Funding for Local HIE Grant Programs and White Space Coverage</b>					
Planning	\$2,700,000	\$0	\$0	\$0	\$2,700,000
Implementation	\$6,300,000	\$0	\$0	\$0	\$6,300,000
Operations	\$0	\$5,400,000	\$2,700,000	\$0	\$8,100,000
Evaluation	\$0	\$0	\$900,000	\$0	\$900,000
<b>Subtotal: Proportional Funding</b>	\$9,000,000	\$5,400,000	\$3,600,000	\$0	\$18,000,000

Table 19: Totals

	2010	2011	2012	2013	Total
<b>Totals by Program Year</b>	\$13,211,944	\$7,132,754	\$5,807,755	\$2,657,755	<b>\$28,810,208</b>
<b>Grand Total</b>					<b>\$28,810,208</b>

Table 20: Federal requirement for non-federal match

	2010	2011	2012	2013	All years
<b>Totals by Program Year</b>	\$13,211,944	\$7,132,754	\$5,807,755	\$2,657,755	\$28,810,208
NonFed match divisor (federal fiscal year)	0 and 10	10 and 7	7 and 3	3	
NonFed match required (total/divisor)	\$1,254,285	\$992,835	\$1,773,177	\$885,830	\$4,906,127

Table 21: Local matching requirement as non-federal match

	2011	2012	2013	Total
Proportional funding to local HIEs (Assumes 80% of provider population claimed)	\$7,200,000	\$4,320,000	\$2,880,000	
Local match: 25%	\$2,250,000	\$1,080,000	\$720,000	\$4,050,000

### 13.1.1 Proportional Funding for Local HIEs

To achieve the state-level strategy to support local HIEs, HHSC and the THSA will develop a grant program to provide partial funding for the planning, implementation, and operations of local HIE initiatives and networks. The THSA will be responsible for developing the criteria for applying for the HIE grants, distributing an RFA, and evaluating the responses to determine if the criteria are met. Prior to release of the RFA, the THSA will seek stakeholder feedback on the tentative proportional funding model, funding formula, assumptions, and approach to validating provider engagement.

In addition to the criteria mentioned in Section 14.1.3 (THSA HIE Functional Report Card and Assessment), applying HIEs will be required to demonstrate local support to be eligible for the 2011 Planning and Implementation Grants. This may be accomplished in part through letters of support from stakeholders, but must include commitments from hospitals and physicians who are willing to guarantee their support and participation in the local HIE initiative. These commitments will indicate that the community in question will be able to initiate and sustain HIE activity at a local level in the timeframe required by the statewide HIE plans.

### 13.1.2 Funding Formula

Texas’ ambitious long-term goal for HIE is to connect every provider and hospital in the state. The funding formula for the local HIE grants will incorporate this goal by linking award amounts to the target capacity of an HIE, validated by the volume of commitments. The other factors that must be used to determine grant amounts will be the budget constraints which are noted in the budget above.

- ❑ Total Local HIE Award = (Target # of Hospitals \* Hospital Multiplier) + (Target # of Physicians \* Physician Multiplier) + 2011 Planning Award
- ❑ Local HIE Award Planning Award = \$75,000 or 15%, whichever amount is greater
- ❑ Total Local HIE Implementation and Operations Award = 80% Local HIE Award
- ❑ Total Local HIE Evaluation Award = 5% Local HIE Award

Table 22: Award Amounts for scheme 1 vs. scheme 2

Award Period	Award Amount Scheme 1	Award Amount Scheme 2
Planning Award 2011	\$75,000	15% of total award amount
Development Award (2011)	(Total award - \$75,000) * 50%	45% to total award amount
Operations Award (2012–2013)	(Total award - \$75,000) * 45%	35% of total award amount
Evaluation Award (2013)	(Total award - \$75,000) * 5%	5% of total award amount

Hospitals and providers not accounted for by local HIEs will be allocated to the white space strategy.

Table 23: Assumptions

	Approximate Population	Multiplier	Amount Available for Proportional Allocation
Hospitals	600	\$10,000	\$6,000,000
Doctors	40,000	\$300	\$12,000,000
<b>Total</b>			\$18,000,000

Table 24: Expected local expenditures of proportionally allocated amounts by year

	2011	2012	2013
Planning	15%		
Implementation	35%		
Operations		30%	15%
Evaluation			5%
<b>Total</b>	50%	30%	20%

Table 25: Local HIE operations expenditure components

Program Year	2010	2011	2012	All Years
Proportionally allocated amount	\$9,000,000	\$5,400,000	\$3,600,000	\$18,000,000
Local HIE base per year	\$1,500,000	\$0	\$0	\$1,500,000
White space base per year	\$1,000,000	\$500,000	\$500,000	\$2,000,000
<b>Totals</b>	\$11,500,000	\$5,900,000	\$4,100,000	\$21,500,000

### 13.1.3 Approach to Validating Provider Engagement

Partnering with local HIEs to build HIE capacity in the state is a strategy that will maximize the impact of Texas’ HIE outreach and effectiveness. It is critical that in the planning, implementation, operation, and evaluation periods the THSA’s local HIE partners maintain and increase their commitments from hospitals and physicians. Each round of grants will require proof of commitments. Additionally, as part of grant monitoring, the THSA will verify that commitments indicated in an application are being fulfilled through the delivery of services.

Local HIE applicants will be required to submit proof of provider commitments according to the following schedule, and based on the target number of providers claimed in the application.

*Table 26: Schedule of proof of provider commitments*

	Hospitals	Physicians
With application (est. Jan 2011)	20%	20%
With plan submission (est. Jul 2011)	20%	20%
Third quarter report (est. Oct 2011)	20%	20%
Fourth quarter report (est. Jan 2012)	20%	20%

### 13.1.4 Tentative Matching Requirement for Local HIEs

Local HIEs will be required to identify local matching funds, cash or in-kind, that will be expended on the particular activities supported through this program. Expenditures on existing operations will not be an acceptable local match, although expenditures on expanded HIE capacity will be considered. The requirement for local matching funds will be 25 percent. The calculated state amount for a local HIE (base plus proportional funding) will represent at most 75 percent of the program amount for the local HIE and the local HIE must identify the other 25 percent as match.

### 13.1.5 White Space Funding

The other state-level HIE strategy that will help the THSA develop the state’s HIE infrastructure is the white space strategy. In addition to building local HIE capacity, the THSA will put out an RFP to provide HIE services for areas that are not served by local HIEs. A diverse group of respondents is anticipated and may include vendors, local HIEs, Regional Extension Centers (RECs), or any others with the technical ability to deliver HIE services. One or more proposal may be selected and funding will be allocated based on the number of providers that are expected to be covered up to the amounts indicated in the budget.

## 13.2 Alignment of Budget with Strategy

The proposed budget will support the Texas and federal HIE strategies, remain in keeping with the state’s common HIT principles, and enable the realization of the THSA’s vision.

One of the focuses of the Texas HIE strategy is to promote local HIE activity through grants (see Strategic Plan Section 4.1.2, Promote Local HIE Activity). As outlined in the assessment of current HIE implementation and readiness (see Strategic Plan Section 2, Environmental Scan), Texas has a number of operational local HIEs and several local efforts that are nearing implementation throughout the state that could effectively cover most providers and the majority of the population. Rather than replicate these activities at the state level, Texas would like to leverage existing technical and social infrastructure to accomplish statewide health information exchange.

The proposed budget will invest significant funds in grants to the local HIEs that will help move these initiatives through planning, implementation, operations, and evaluation over the next four years. By participating in the grant program, the local HIEs will have to fulfill core HIE functions; adopt the agreed-to statewide standards for interoperability, security, and privacy; and contribute to the development of evidence-based HIT policies and practices through THSA monitoring and evaluations (see Strategic Plan Sections 4.4.2, Finance, and 4.4.5, Legal).

The assessment of current HIE implementation and readiness also shows that there are areas of the state that do not currently have any HIE activity. While the emergence of local HIEs in these areas would be welcome, the white space strategy (see Strategic Plan Section 4.1.3, Contract for HIE Services for Areas without Local HIE Activity) was developed in recognition that there will always be providers and patients in areas that lack these initiatives but still need HIE services. The proposed budget includes funding that will be used to contract with one or more entities to provide HIE connectivity to regions of the state without local HIEs. Like the local HIEs, the awardees of the white space contract(s) will have to fulfill necessary HIE functions, adopt statewide standards, and participate in monitoring and evaluations (see Strategic Plan Section 4.1.3, Contract for HIE Services for Areas without Local HIE Activity).

Finally, Texas’ strategy recognizes that efficiencies can be gained through the development of some state-level operations (see Strategic Plan Section 4.1.1, Develop General State-Level Operations). HHSC and the THSA will continue to meet the requirements of the state’s governance approach (see Strategic Plan Section 4.4.1, Governance) and establish and maintain required policies (see Strategic Plan Sections 4.4.1, Governance, and 4.4.5, Legal). The THSA is also committed to providing state-level shared services including record locator services and connectivity to the NHIN (see Strategic Plan Sections 4.4.1, Governance, 4.4.3, Technical Infrastructure, 4.4.4, Business and Technical Operations, and 5.4, Coordination with Federal Health IT Initiatives). The proposed budget allocates funds to these state-level operation

### 13.3 Approach to Developing Sustainability Models

As directed by the ONC, THSA must ensure that both the state and regional/local HIEs are sustainable and have a direction and a plan to maintain sustainability. Initially we will rely on grant and investor funding as we build out our capabilities. As these capabilities are available, we will implement funding streams tied to the sources where the value accrues.

The THSA will implement the approach shown below.

Table 27: Financial approach

Short-Term Approach (12–18 months)	Long-Term Approach (18–42 months and forward)
<ul style="list-style-type: none"> <li>■ Leverage ONC funding to support establishment of baseline THSA operations, identify core state-level HIE services, develop local HIE grant program, and implement white space solution</li> <li>■ Establish processes required by ONC</li> <li>■ Establish Collaboration Council</li> <li>■ Establish HIE membership of Collaboration Council</li> </ul>	<ul style="list-style-type: none"> <li>■ Develop, implement, and operate shared state-level services</li> <li>■ Initiate sustainability dialogue and development of sustainability model</li> </ul>

## 13.4 Value of Health Information Exchange

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In the long run, the financial model for Texas' health information exchange infrastructure will be tied to the value of HIE. It will be important for the THSA to make this determination based on research and data relevant to the Texas health care system—a body of work that the THSA will be committed to developing over the next few years. Fortunately, some existing research to quantify the value of HIE and identify its beneficiaries can serve as a valuable starting point for future Texas oriented studies.

One such study by the Center for Information Technology Leadership (CITL) in 2006 was undertaken for the Gulf Coast Health Information Technology (IT) Task Force. CITL used Texas-specific inputs to determine the benefits, costs, and net value of these systems. The model considers the value of electronic transactions between providers and the stakeholders with whom they most commonly exchange information. Additionally, the model quantifies the value of the entire system moving from today's prevailing phone and mail communications to an idealized state of full computer-to-computer, standardized data exchange with minimal human involvement.

Using this model, CITL estimated that an electronic health information infrastructure across the Texas health care system could save \$14.2 billion annually once fully implemented. In addition, the state could net \$78.4 billion in savings over an initial 10-year implementation period. The largest value accrues to laboratories, providers, and payers. Individual provider organizations break even at different points during the 10-year implementation period. Medium and large medical offices see positive returns in the first year, small offices in year 3, while jumbo and large hospitals break even by years 5 and 6 respectively. Small and medium hospitals are the slowest to see positive returns, but even when incurring the costs of implementation reach a breakeven point in year 7. Further, these systems could eliminate over 150,500 preventable outpatient adverse drug events (ADEs) annually, as well as over 94,500 outpatient visits and 13,700 hospitalizations due to preventable ADEs.

The CITL study makes a very strong case for HIT adoption and provides the THSA with a working model. However, with rapid changes in the health information technology market the model and its underlying assumptions may need to be reexamined based on new and evolving evidence. The valuations used by the THSA to develop a financial model should also be specific to the statewide services and the type and volume of clients served.

## 13.5 Ongoing Sustainability Planning

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Establishing a financial model based on the value of HIE is the long-term path to sustainability. However, this value will evolve over the course of the implementation phase and will take time to accurately quantify and operationalize. In the mean time, sustainability planning is an immediate priority so the THSA can satisfy the requirements of the Cooperative Agreement Program and its commitment to the Texas healthcare community. This planning will allow the THSA to implement a preliminary sustainability model subject to evaluation and revision as the health information technology landscape in Texas develops.

The THSA plans to develop, operate, and evaluate a sustainability model within the four-year implementation period. Given the state's technical approach for achieving statewide HIE, sustainability will have to be achieved by local HIEs and at the state level. In 2011, the THSA will engage the Collaboration Council and stakeholders to develop a preliminary state-level sustainability model. This sustainability model will take into consideration the best existing knowledge of the value proposition and beneficiaries and account for the scope of necessary statewide services once they are determined. At the local level, sanctioned HIEs will also be required to identify a sustainability model for their operations in order to receive planning grants from the THSA.

By the end of 2011 and 2012 the THSA's preliminary sustainability model and several local models will be operational. In this operational period the success of these sustainability models will be monitored by the THSA via financial reports and ongoing communications.

Later stages of meaningful use will require incentive recipients to utilize some health information exchange functions and it is anticipated these services should be in strong demand in 2013. In 2013, the THSA will conduct its first evaluation of its sustainability model and the models implemented by local HIEs. The development of this evaluation will begin in 2011 to ensure that it is able to fairly capture a diverse set of goals and measures established by local HIEs, allow time to reassess the evaluation tools, and ensure that the process can incorporate lessons from evaluation experiences in other states and at the national level. When the evaluation takes place in 2013 Texas will be able to determine if state and local HIEs are progressing toward sustainability, learn from examples that indicate success, and have an early warning in areas that may not be on a sustainable track.

Finally, in 2014 lessons from the state and local evaluations and the HIE value study will enable Texas HIEs to strengthen their sustainability models. Monitoring and evaluating state and local HIEs will be an ongoing function of the THSA.

### 13.6 Controls and Reporting

The THSA will use generally accepted accounting principles to prepare, present, and report financial statements. A financial status report will be provided to the Board of Directors of the THSA prior to each public board meeting. The THSA will arrange for an annual audit of the financial statements to be conducted by an independent accounting firm. Audited financial statements, including the auditor's opinion thereon, will be submitted and presented to the Board of Directors by the independent accounting firm during a public meeting of the Board of Directors. The THSA will also comply with any request from the Texas State Auditor's Office to conduct an audit or investigation.

The THSA will ensure that appropriate financial controls are in place in conformance with all applicable federal and state statutes, rules, and regulations, including, but not limited to, all relevant US Department of Health and Human Services Grants Policy Statements, Office of Management and Budget circulars, and all other financial and reporting requirements under the American Recovery and Reinvestment Act and the State Health Information Exchange Cooperative Agreement Program. The HHSC will serve as the single point of contact to submit progress and spending reports to ONC. The THSA will leverage the shared structure, systems, and financial processes of HHSC when it is feasible and appropriate.

Finally, the THSA is scheduled to go through the Texas Sunset process in 2013. The purpose of the Texas Sunset process, which is overseen by the Texas Sunset Commission ([www.sunset.state.tx.us](http://www.sunset.state.tx.us)), is to identify and eliminate waste, duplication, and inefficiencies. The Commission seeks public input through hearings and reports its findings to the Texas Legislature. The Texas Sunset process provides another layer of review of the finances and overall operations of the THSA and statewide HIE capabilities in Texas.

## 14. Domain-Specific Components: Technical Infrastructure

The Texas architecture shall provide technical services for HIE in a secure and appropriate manner, and support protocols and technology standards with applicable and appropriate architecture through THSA oversight and governance to ensure statewide and federal program interoperability (including NHIN) and vendor neutrality. The technical infrastructure and services for the Texas HIE shall be provided in a secure, appropriate manner supported by protocols and technology standards through the use of THSA oversight and governance, adherence to statewide and federal program interoperability, and vendor neutrality while meeting the FOA requirements.

### 14.1 Technical Assistance

#### 14.1.1 THSA Enterprise Architecture Blueprint

The THSA intends to stand up technical interoperability standards in line with federally approved standards and publish these standards through the THSA enterprise architecture blueprint (EAB). Not only will this blueprint clearly articulate the current technical standards but it will offer guidance and direction to future standards so that regional HIEs can make informed technical and investment decisions in a collaborative and proactive manner.

The EAB will provide a six-year vision, divided into three two-year increments. It will include current detailed and specific standards and guidelines for the next two years (years 1–2), planning considerations for years 3–4, and very high-level strategic direction for years 5–6. The THSA EAB will be a living document that will act as a continuum of technical guidance throughout the project lifecycle. These will follow or be mapped closely to interoperability guidance coming from ONC, CMS, the HIT Standards Committee, HL7, IHE, and other bodies as appropriate. It will be reviewed on a quarterly basis to ensure new technologies are under consideration, but current standards will only be updated on an annual basis. Supporting the standards for a full year is intended to give adequate time for planning and implementation and avoid frequent changes to adjust to constantly evolving technology enhancements.

The THSA EAB will focus on interoperability standards and promoting interoperability and consistency in health information exchange locally, regionally, statewide, interstate and nationally. The blueprint will also have separate but integrated sections for technology, semantic, and interoperability standards.

The THSA will maintain a publicly available version of the EAB on the THSA website and allow for a downloadable version as well. The EAB will be managed and maintained by a collaboration of THSE technical architects and volunteer participation from key HIE stakeholders and participants.

The THSA will provide technical architecture assistance on an as needed basis for local and regional HIEs that need help interpreting, understanding, or implementing EAB recommendations.

#### 14.1.2 THSA Implementation Specification

The THSA will develop an implementation specification document that will act as a technical reference for HIE implementation. It will have at its core standards provided by the ONC and CMS but will also draw from other models as needed, including HL7 RIM, IHE profiles, HITSP implementation

specifications and other current and emerging interoperability standards. The implementation specifications would provide a complete list and links to the definitive statewide interoperability standards including terminology/vocabulary and data type needed to exchange data. Likely vocabulary standards include ICD-9, ICD-10-CM, CPT, SNOMED CT, LOINC, and a number of terminologies used for medications.

- ❑ **Texas version of standards:** The THSA is considering supporting a Texas version of each of these standards so that complete interoperability can be achieved throughout the state without incompatibilities arising for regions or local HIEs that develop local instantiations. These would in turn remain compatible with the NHIN requirements.
- ❑ **Implementation coding standards:** The THSA is considering implementing a working version of each of these coding standards in the THSA HIE to act as a reference implementation so that regional and local HIEs have a working example and implementation they can leverage.

The THSA will maintain a publicly available version of the implementation specifications on the THSA website and allow for a downloadable version as well. The THSA implementation specification will be managed and maintained by a collaboration of THSA technical architects and volunteer participation from key HIE stakeholders and participants.

The THSA will provide implementation specification consulting on an as-needed basis for local and regional HIEs that need help interpreting, understanding, or implementing the implementation specification recommendations.

The implementation specification would support replication and downloads *or* cloud-based services for those models.

### 14.1.3 THSA HIE Functional Report Card and Assessment

The THSA Functional Report Card provides a list of functionalities and an implementation schedule. The Report Card enables regional HIEs to do self-assessments to discern whether they meet the required functionality progress according to THSA requirements and meaningful use criteria.

The THSA will maintain a publicly available version of the Functional Report Card on the THSA website and allow for a downloadable version as well. The THSA will provide consulting on an as-needed basis for local and regional HIEs that need help interpreting, understanding the Report Card.

## 14.2 Architecture

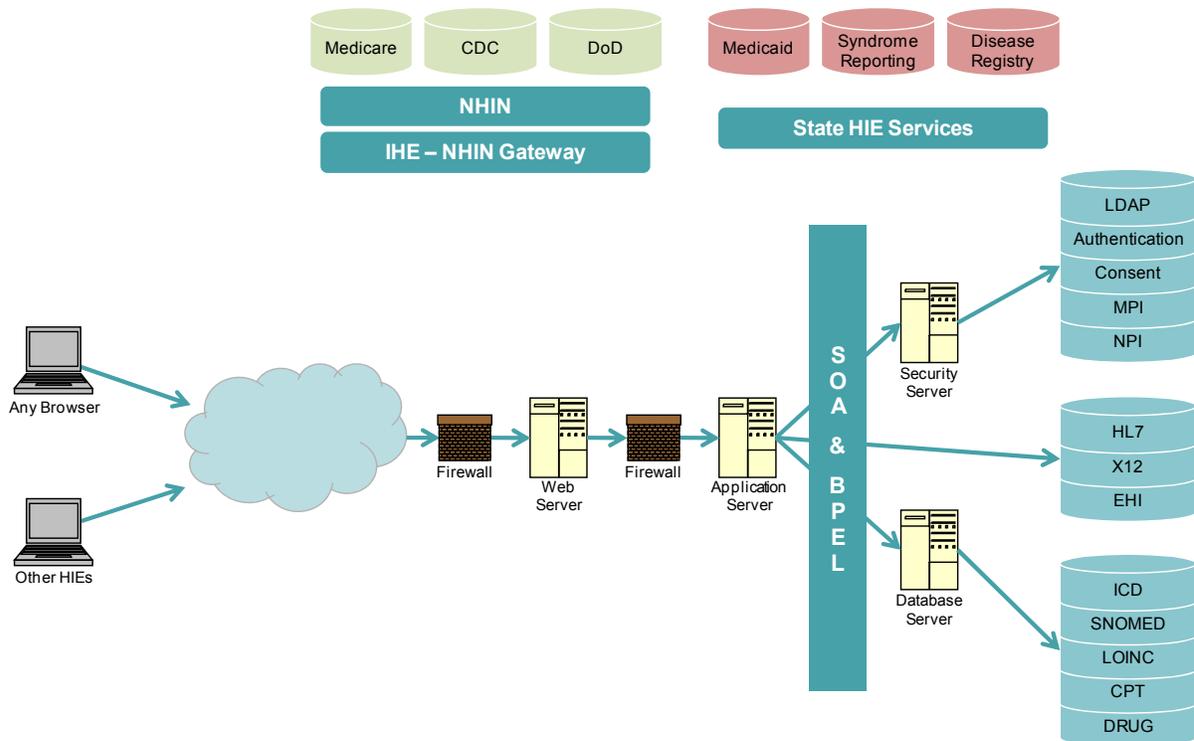
Technical architecture describes the structure and behavior of the technology infrastructure of an enterprise, solution or system. It normally covers the client and server nodes of the hardware configuration, the infrastructure applications that run on them, the infrastructure services they offer to applications, the protocols and networks that connect applications and nodes. However in the case of the THSA HIE strategic plan the technology architecture is left primarily open and the architecture is focused primarily on interoperability of process, technology, and semantics.

The THSA evaluated at least four technology architecture alternatives during the planning phase to determine which best suited the needs of Texas. Examples include fully distributed, regional federated, state centralized, and hybrid models. The hybrid architecture borrows concepts from all the other architectures, and represents the flexibility needed to address the diverse, socio-economic, political and geographic environments needs of Texas.

The hybrid architecture uses centralized and federated models based on each regional HIE’s setup, socioeconomic, political and geographic environments, size, and so forth. This approach is most likely what is expected to happen as more regional communities get connected.

The THSA hybrid architecture maintains a thin state level infrastructure and relies heavily on regional HIEs to communicate and appear as a single large statewide database even though the regions house and service their own datasets.

Figure 31: Hybrid technology architecture



### 14.3 Technology Deployment

Since providers must use an EHR that meets national certification standards and other meaningful use requirements, the THSA will ensure that the technology deployed by the statewide HIE will use existing standards recognized by the Secretary of HHS. This approach will leverage standards and interoperability specifications that have been endorsed by the appropriate oversight committee.

### 14.4 Interoperability Among Local HIEs

Interoperability between local HIEs will be facilitated by a set of network services that will be developed and standards that will be identified by the THSA board with the advice of the local HIEs and Collaboration Council once local HIE operations are underway (tentatively early 2012.) The starting point for the discussion of network services and standards to support interoperability between local HIEs will be NHIN CONNECT and the NHIN exchange standards. (A Texas-specific data use agreement will likely be developed to support the legal requirements rather than using the DURSA.) Under this model, node registry and authentication and other ancillary network services necessary to support this NHIN-based deployment would be developed and administered at the state level by the THSA.

Although this NHIN-based, intra-state HIE strategy would be the starting point for the discussion of interoperability among local HIEs in Texas, it is certainly possible that a different strategy or approach will ultimately prevail.

At this time, there are no plans to operate a record matching service at the state level. A record locator service will be established at the state level, with record matching functions implemented at the local level. It is anticipated that local HIEs will implement record matching services or choose to empower providers to be responsible for patient record disambiguation.

## 14.5 Standards and Certifications

In order to promote statewide interoperability, the THSA is defining a set of standards that are based on national standards (NHIN, HITSP) and compatible with HHSC and HITECH guidelines but are specified by the state to reduce technical and semantic ambiguity. By laying down these global interoperability standards, the THSA will promote a comprehensive strategic vision to meet national, statewide, and local community goals while trying to reduce any impediments to adoption and adherence. These standards will support the most sophisticated hospital networks as well the least sophisticated communities. The standards will establish a common language but at the same time will be introduced in incremental fashion.

The THSA will work with the Collaboration Council and other stakeholders to identify the Texas HIE standards and implementation specifications. The following standards and implementation specifications have been identified by ONC or are in common usage throughout the health care sector and will serve as a starting point for the development of the Texas HIE standards and implementation specifications.

The initial implementation focus will be on broad adoption of the core standards defined by the ONC. Following the initial successful implementation based on the federally identified standards and implementation specifications, additional functionality will be layered based upon the overall strategic plan, consistent with additional interoperability standards as appropriate. At this time, it is anticipated that the following standards and implementation specifications will form the basis for the Texas-specific HIE standards and implementation specifications as appropriate.

Preliminary interoperability standards:

- ❑ Final standards and certification rule
- ❑ NHIN implementation specifications
- ❑ NHIN Direct simplified interoperability standards

Additional interoperability standards:

- ❑ Technical interoperability
- ❑ Semantic interoperability
- ❑ Process interoperability

### 14.5.1 Final Standards and Certification Rule

The Final Standards and Certification Rule released by ONC in July 2010 includes standards and implementation specifications for a number of capabilities, including:

- ❑ Content Standards
  - ❑ Patient Summary Record
  - ❑ Electronic Prescribing
  - ❑ Electronic Submission of Lab Results to Public Agencies

- ❑ Electronic submission to immunization registries
- ❑ Quality Reporting
- ❑ Vocabulary Standards
  - ❑ Problem List
  - ❑ Procedures
  - ❑ Laboratory test results
  - ❑ Medications
  - ❑ Immunizations
  - ❑ Race and Ethnicity
- ❑ Privacy and Security (includes transport standards)
  - ❑ Encryption and decryption of electronic health information
  - ❑ Record actions related to electronic health information
  - ❑ Verification that electronic health information has not been altered in transit
  - ❑ Record treatment, payment, and health care operations disclosures

### 14.5.2 NHIN Implementation Specifications

The NHIN exchange standards include implementation specifications for the following capabilities at a production level:

- ❑ Access Consent Policies
- ❑ Authorization Framework
- ❑ Query for Documents
- ❑ Retrieve Documents
- ❑ Health Information Event Messaging
- ❑ Messaging Platform
- ❑ Patient Discovery
- ❑ Web Services Registry

### 14.5.3 NHIN Direct Simplified Interoperability Standards

The NHIN Direct project is in the process of developing simplified interoperability standards for the following capabilities:

- ❑ Standards-based health information exchange in support of core Stage 1 Meaningful Use measures
- ❑ Communication of summary care records, referrals, discharge summaries and other clinical documents in support of continuity of care and medication reconciliation,
- ❑ Communication of laboratory results to providers

### 14.5.4 Technical Interoperability Standards

Technical interoperability focuses on data interoperability standards to ensure effective and consistent communications and data interchange. The technical standards include transport protocol standards that help guarantee effective two way communications, security standards that help encrypt and decrypt the PHI information, message formats such as HL7 that establish a common message structure, and industry standards code sets so that the data defined in the messages is consistent and is both machine and human interpretable.

## Transport Protocols

### ***EDI X12***

EDI X12 is a U.S. EDI standard and is primarily used in North America. For the THSA architecture, EDI X12 establishes a communication protocol or “handshaking” between two HIEs exchanging common claim data sets such as 835 claim remittance and 837 claim submittal formats.

### ***HTTPS***

Hypertext Transfer Protocol Secure (HTTPS) is a combination of the Hypertext Transfer Protocol with the SSL/TLS protocol to provide encryption and secure (website security testing) identification of the server. It uses port 443. HTTPS connections are often used for payment transactions on the World Wide Web and for sensitive transactions in corporate information systems. HTTPS should not be confused with Secure HTTP (S-HTTP) specified in RFC 2660.

### ***FTPS***

FTPS (also known as FTP Secure and FTP-SSL) is an extension to the commonly used File Transfer Protocol (FTP) that adds support for the Transport Layer Security (TLS) and the Secure Sockets Layer (SSL) cryptographic protocols.

## Message Protocols

### ***HL7***

HL7 is the predominant industry standard for exchanging health information. It contains approximately 35 different health care related message formats. An HIE is not required to implement all of HL7 simultaneously but should implement enough of HL7 to support the ONC’s defined core HIE functionality.

Founded in 1987, Health Level Seven International (HL7) is a not-for-profit standards organization dedicated to providing a comprehensive framework and related standards for the exchange, integration, sharing, and retrieval of electronic health information that supports clinical practice and the management, delivery and evaluation of health services. HL7 was accredited in 1994 by the American National Standards Institute (ANSI). The standard is older and needs updating and improvements.

HL7 is one of several American National Standards Institute (ANSI)-accredited standards developing organizations (SDOs) operating in the health care arena. HL7’s domain is clinical and administrative data. HL7 has been adopted by ISO as a centre of gravity in international standardization and accredited as a partnering organization for mutual issuing of standards. The first mutually published standard is ISO/HL7 21731:2006 Health informatics—HL7 version 3—Reference information model—Release 1.

The current standard version of HL7 is version 3; however mainstream adoption has been slow. It will be up to the THSA technology standards architecture team to determine which version of the code set is currently supported. The THSA technology standards architecture team will review these standards on a quarterly basis and update as needed on an annual basis. Please refer to the THSA HIE Architecture Blueprint on the THSA website for the latest standards updates.

### ***IHE***

IHE is an initiative by health care professionals and industry to improve the way computer systems in health care share information. In 1997, a consortium of radiologists and information technology experts formed Integrating the Healthcare Enterprise (IHE), which aims to create a process through which

interoperability can be implemented. The group gathers case requirements, identifies available standards, and develops technical guidelines that manufacturers can implement. IHE also stages “connectathons” and “interoperability showcases” in which vendors assemble to demonstrate the interoperability of their products.

IHE is an international organization that focuses on the development of global standards and on the regional deployment of interoperable products. Because of its limited resources, IHE concentrates on specific projects. It solicits proposals; and after surveying its members to better understand their priorities, it chooses areas to focus on.

IHE is sponsored by the Healthcare Information and Management Systems Society (HIMSS), the Radiological Society of North America (RSNA), and the American College of Cardiology (ACC). The eye care domain is sponsored by the American Academy of Ophthalmology.

It will be up to the THSA technology standards architecture team to determine how much of IHE to support. The THSA technology standards architecture will review these standards on a quarterly basis and update as needed on an annual basis. Please refer to the THSA HIE Architecture Blueprint on the THSA website for the latest standards updates.

### **Reference Information Model and Coding Standards**

#### ***Logical Observation Identifiers Names and Codes (LOINC)***

Logical Observation Identifiers Names and Codes (LOINC) is the predominant industry standard in codes that provides a universal test identifications. LOINC applies universal code names and identifiers to medical terminology related to the electronic health record. The purpose is to assist in the electronic exchange and gathering of clinical results (such as laboratory tests, clinical observations, and outcomes management and research). By adopting and utilizing LOINC, the THSA will provide a clinical laboratory coding system that can provide clinicians and physicians a common set of tests that are globally understood throughout the state, as well as nationally.

LOINC is a database and universal standard for identifying medical laboratory observations. It was developed in 1994 and is maintained by the Regenstrief Institute, Inc., a U.S. non-profit medical research organization. LOINC was created in response to the demand for an electronic database for clinical care and management and is publicly available at no cost. It is endorsed by the American Clinical Laboratory Association and the College of American Pathologists. Since its inception, the database has expanded to include not just medical and laboratory code names, but also codes for nursing diagnoses, nursing interventions, outcomes classification, and patient care data set.

Like many health care standards, there is an issue with adoption. Currently it is estimated that only 60 percent of the country has adopted the LOINC standard and this means some accommodation for localized mapping (non-LOINC) should be established. The THSA is still considering the impact of not supporting other clinical code sets. Careful consideration must be given to determining what to do with the 40 percent of the clinical observations that do not support LOINC. Regenstrief offers mapping software that matches localized code sets to LOINC (RELMAP). The issue is that localized codes sets are known and of value to local providers but because the code sets are not universal they are not machine interpretable and may have negative long term effect on meaningful use.

The State of Texas notifiable laboratory system uses LOINC codes.

#### ***International Classification of Diseases (ICD-9-CM and ICD-10-CM)***

The International Statistical Classification of Diseases and Related Health Problems provides codes to classify diseases and a wide variety of signs, symptoms, abnormal findings, complaints, social

circumstances, and external causes of injury or disease. The current standard version of ICD is ICD-9-CM in the United States and was developed by the National Committee for Vital and Health Care Statistics (NCVHS), the same body that is developing ICD-10-CM.

In the United States, ICD-9-CM is mandated for claims reporting purposes and is scheduled to be replaced by ICD-10-CM in October 2013. ICD-9-CM and ICD-10-CM may be classified as administrative terminologies whose primary role is the support of claims submission.

The International Classification of Diseases is published by the World Health Organization (WHO) and is used worldwide for morbidity and mortality statistics, reimbursement systems and in some cases automated decision support in medicine. This system is designed to promote international comparability in the collection, processing, classification, and presentation of these statistics. The ICD is a core classification of the WHO Family of International Classifications (WHO-FIC). The THSA technology standards architecture team will review these standards on a quarterly basis and update as needed on an annual basis. Please refer to the THSA HIE Architecture Blueprint on the THSA website for the latest standards updates.

### ***Procedure Codes (CPT)***

The Current Procedural Terminology (CPT) code set is maintained by the American Medical Association through the CPT Editorial Panel. The CPT code set accurately describes medical, surgical, and diagnostic services and is designed to communicate uniform information about medical services and procedures among physicians, coders, patients, accreditation organizations, and payers for administrative, financial, and analytical purposes.

The current standard version is CPT 2010. It along with HCPCS is a required code set for the reporting of procedural and durable medical goods claims. CPT will continue to be a mandatory terminology for claims reporting, although other code sets (e.g., from reference terminologies) may be used as well. The THSA technology standards architecture team will review these standards on a quarterly basis and update as needed on an annual basis. Please refer to the THSA HIE Architecture Blueprint on the THSA website for the latest standards updates.

### ***National Drug Codes (NDC)***

The National Drug Code (NDC) is a unique product identifier used in the United States for drugs intended for human use. The Drug Listing Act of 1972 requires registered drug establishments to provide the Food and Drug Administration (FDA) with a current list of all drugs manufactured, prepared, propagated, compounded, or processed by it for commercial distribution. Drug products are identified and reported using the NDC.

It will be up to the THSA technology standards architecture team to determine which version of the code set is currently supported. The THSA technology standards architecture team will review these standards on a quarterly basis and update as needed on an annual basis. Please refer to the THSA HIE Architecture Blueprint on the THSA website for the latest standards updates.

## **14.5.5 Interoperability Standards**

Semantic interoperability focuses on understanding and common definition of the data content.

The role of interoperability standards in HIEs is evolving. The Continuity of Care Record (CCR) and the Continuity of Care Document (CCD) (HITSP IS C32) are two important standards whereby human readable, structured and codified information can be exported from EHRs and PHRs, stored within a data warehouse, and retrieved for use in clinical care, quality analysis, and research. In order to meet the

objectives of the HITECH Act, HIEs will need to support existing standards and to be adaptable to emerging requirements. Organizations such as the HIT Standards Committee, HL7 (Health Level 7), IHE, HITSP, and others have sought or are seeking to develop solutions to many of the interoperability challenges faced by HIEs. HIEs in the State of Texas will need to remain current with ongoing developments in this field of clinical informatics.

An HIE's information model will need to support a variety of clinical terminologies (also referred to as "vocabularies"). Clinical terminologies relevant for HIEs include administrative, reference, and interface types. It will be important for HIEs to have a working understanding of the roles, strengths and weaknesses of the different forms of terminology and cross terminology mappings to meet the clinical and healthcare operational needs of their communities. Information will need to be managed in a manner that ensures that throughout its entire lifecycle it remains accurate, complete and interoperable.

For example, terminologies designed for billing and administrative purposes (i.e., administrative terminologies) may not support the same level of semantic interoperability as reference terminologies designed for that purpose such as SNOMED CT. However, use of SNOMED CT at the point of care has resulted in a somewhat limited uptake due to the canonical design and editorial policies required to maintain precise concept definitions. This has given rise to what are being referred to as "interface terminologies" designed to allow clinicians to use naturally sounding pre-coordinated clinical expressions during EHR documentation that are in turn mapped to a reference and administrative terminologies. They can also be customized to support the needs of clinical specialists (see, for example: Rosenblum, et. al., *J Am Med Inform Assoc.* 2006 May-Jun;13(3):277–88. Epub 2006 Feb 24.). The role of interface terminologies has yet to be determined, but their use may increase as providers are encouraged to capture greater amounts of data in usable formats such as SNOMED CT. However, additional complexities may be introduced related to translational issues associated with concept mapping.

### **SNOMED-CT**

The Systematized Nomenclature of Medicine—Clinical Terms (SNOMED-CT), is a systematically organized computer processable collection of [medical terminology](#) covering most areas of clinical information such as diseases, findings, procedures, microorganisms, and pharmaceuticals. It has approximately 360,000 concepts and over 1,000,000 descriptions (synonyms and preferred names). It allows for a consistent way to index, store, retrieve, and aggregate clinical data across specialties and sites of care. It also helps organize the content of medical records, reducing the variability in the way data is captured, encoded, and used for clinical care of patients and research.

SNOMED CT is also one of the approved terminologies that can be used to store and share problem list data in a codified format to meet meaningful use requirements. It is referred to as a reference terminology designed to support semantic interoperability, accurate clinical reporting, and data analysis. These features give it a significant advantage over administrative terminologies such as ICD-9-CM in a clinical information model, in particular its role in HIEs. SNOMED CT uses unique identifiers for each concept, and supports synonymy, multilevel hierarchies, polyhierarchies, and concept definitions based on the use of specified relationships to other concepts. Its structure was developed with the use of description logics, an artificial intelligence construct that allows for the inference of additional relationships between concepts. HIEs leaders will need to have a functional understanding of the structure and role of reference terminologies such as SNOMED CT, in particular as the amount of data stored in this format increases.

One particular challenge that HIEs will need to overcome is how they manage complex clinical expressions that include modifiers that impart negation or uncertainty to core concepts (e.g., no history of chest pain, doubt multiple sclerosis, etc.). These challenges are being addressed by various bodies such as HL7 (via the CDA level 3 efforts) and their work will need to be closely monitored by HIE stakeholders.

### 14.5.6 Process Interoperability Standards

Process interoperability is critical to the state's HIE strategy. It means in simple terms that disparate services and processes can be joined together to provide a common HIE. Utilizing process interoperability standards will allow the Texas HIE to grow naturally and incrementally and still appear seamless. Process interoperability is also essential to the workflow within the HIE seamlessly integrating into the provider's natural workflow. If HIE and EHR system workflows do not support the provider's way of doing things adoption rates will be slow.

NOTE: Process interoperability is a set of technology *guidelines*, not *standards*. The flexible and evolving nature of these technologies means that not all groups must implement this the same way. Process interoperability is more of a concept than a defined standard.

#### **Service-Oriented Architecture (SOA)**

In computing, a service-oriented architecture (SOA) is a flexible set of design principles used during the phases of systems development and integration. A deployed SOA-based architecture will provide a loosely-integrated suite of services that can be used within multiple business domains.

SOA also generally provides a way for consumers of services, such as web-based applications, to be aware of available SOA-based services. For example, several disparate departments within a company may develop and deploy SOA services in different implementation languages and their respective clients will benefit from a well understood, well defined interface to access them. XML is commonly used for interfacing with SOA services, though this is not required.

SOA defines how to integrate widely disparate applications for a world that is web-based and uses multiple implementation platforms. Rather than defining an API, SOA defines the interface in terms of protocols and functionality. An endpoint is the entry point for a SOA implementation.

Service-orientation requires loose coupling of services with operating systems, and other technologies that underlie applications. SOA separates functions into distinct units or services which developers make accessible over a network in order to allow users to combine and reuse them in the production of applications. These services and their corresponding consumers communicate with each other by passing data in a well-defined, shared format, or by coordinating an activity between two or more services.

#### **Simple Object Access Protocol (SOAP)**

SOAP, originally defined as Simple Object Access Protocol, is a protocol specification for exchanging structured information in the implementation of web services in computer networks. It relies on eXtensible Markup Language (XML) as its message format, and usually relies on other Application Layer protocols (most notably Remote Procedure Call (RPC) and HTTP) for message negotiation and transmission. SOAP can form the foundation layer of a web services protocol stack, providing a basic messaging framework upon which web services can be built. This XML-based protocol consists of three parts: an **envelope** which defines what is in the message and how to process it, a set of **encoding rules** for expressing instances of application-defined data types, and a **convention** for representing procedure calls and responses.

As a layperson's example of how SOAP procedures can be used, a SOAP message could be sent to a web-service-enabled web site (for example, a real-estate price database) with the parameters needed for a search. The site would then return an XML-formatted document with the resulting data, such as prices, location, and features. Because the data is returned in a standardized machine-parseable format, it could then be integrated directly into a third-party web site or application.

***Business Process Execution Language (BPEL)***

Business Process Execution Language (BPEL), short for Web Services Business Process Execution Language (WS-BPEL) is an OASIS standard executable language for specifying interactions with web services. Processes in BPEL export and import information by using web service interfaces exclusively.

Web service interactions can be described in two ways: executable business processes and abstract business processes. Executable business processes model actual behavior of a participant in a business interaction. Abstract business processes are partially specified processes that are not intended to be executed. An abstract process may hide some of the required concrete operational details. Abstract Processes serve a descriptive role, with more than one possible use case, including observable behavior and a process template. WS-BPEL is used to model the behavior of both executable and abstract processes.

**Security standards*****Lightweight Directory Access Protocol (LDAP)***

Lightweight Directory Access Protocol (LDAP) is an application protocol for querying and modifying data using directory services running over TCP/IP.

***eXtensible Access Control Markup Language (XACML)***

The eXtensible Access Control Markup Language (XACML) is a declarative access control policy language implemented in XML and a processing model that describes how to interpret the policies.

***Security Assertion Markup Language (SAML)***

Security Assertion Markup Language (SAML) is an XML-based standard for exchanging authentication and authorization data between security domains, that is, between an identity provider (a producer of assertions) and a service provider (a consumer of assertions). SAML is a product of the OASIS Security Services Technical Committee.

## 15. Domain-Specific Components: Business and Technical Operations

### 15.1 Focus, Approach, Strategies

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#### 15.1.1 Focus

In response to the Public Information Notice(PIN) released by ONC in July 2010 and to ensure hospitals and providers can achieve meaningful use HIE requirements, Texas will initially focus on enabling the following elements of HIE through local HIE networks and state-level contracts that support areas where no local HIE networks exist:

- ❑ Electronic prescribing and refill requests;
- ❑ Electronic clinical laboratory ordering and results delivery; and
- ❑ Clinical summary exchange

#### 15.1.2 Approach

The state will support the following three strategies to establish statewide HIE infrastructure that supports these core HIE services:

- ❑ General state-level operations
- ❑ Local HIE grant program
- ❑ White space coverage

#### General State-Level Operations

HHSC and THSA will identify and implement state-level operations to enable the establishment and operation of HIE capacity statewide. Specifically, the THSA will:

1. Administer governance structure. This includes the administration of the THSA Board of Directors, and establishment and administration of Collaboration Council and Task Forces to support consensus on policy development.
2. Establish and maintain required policies and standards for local HIEs. Specifically, the THSA will:
  - a. Establish and maintain privacy and security policies and standards by:
    - i. Commissioning data collection to support development of consent policy.
    - ii. Educating policymakers on consent options.
    - iii. Adopting consent policy (based on legislative direction).
    - iv. Commissioning legal services to support development of trust agreements and consent form, and to provide ongoing analysis of legal framework.
    - v. Developing Texas HIE trust agreements.
    - vi. Developing universal consent form.
    - vii. Identifying security standards (policy).
  - b. Establish and maintain interoperability and other technical standards by:
    - i. Commissioning technical consulting services to support identification of technical standards.

- ii. Identifying data exchange standards (including implementation specifications and discussion of connection to NHIN).
      - iii. Identifying security standards (technical).
    - c. Establish and maintain required financial and other business practices.
  3. Develop and administer statewide evaluation plan to inform sustainability planning by:
    - a. Measuring impact of HIE at the local and state levels.
    - b. Identifying value of HIE.
    - c. Identifying beneficiaries of HIE.
    - d. Developing sustainability models and business plans.
  4. Develop state-level shared services by commissioning consulting services to support the development of a:
    - a. Record locator service (to connect local HIEs)
    - b. Connectivity to statewide data sources, including but not limited to Medicaid and state public health programs
    - c. Provider directory service (to provide network addresses and communication protocols to connect providers and other entities with authorization to share health information)
    - d. National Health Information Network connectivity (to facilitate nationwide interoperability and connectivity with federal partners)

### 15.1.3 Local HIE Grant Program

To ensure implementation of the core HIE services in the urban and other areas with the capacity to support a local HIE network, the HHSC and THSA will develop a grant program to provide partial funding for the planning, implementation, and operations of local HIE initiatives/networks. HIEs will be required to use any funds received to create and/or implement detailed, multi-year business plans designed to advance from eHI Stage Three to eHI Stage Seven functionality. HIEs at eHI Stage Three should have completed some level of planning and will have written policies, procedures, and documentation. To ensure this process, the THSA will:

1. Develop criteria to select applying/candidate local HIEs. An initial list of criteria developed during the planning process is as follows:
  - ❑ A governance model is in place
  - ❑ The HIE has achieved eHI Level 3 in HIE development, completed some level of planning, and has written policies, procedures, and documentation regarding the following:
    - ❑ Formal governance structure;
    - ❑ Description of its membership (list of all stakeholders that are members);
    - ❑ Decision making authority;
    - ❑ HIE technology model deployed or planned;
    - ❑ Sustainability plan and funding sources; and
    - ❑ Systems and governance model to ensure privacy and security of health information.
  - ❑ All constituents are represented and included
  - ❑ Technical model embraces accepted and emerging interoperability standards.
  - ❑ There is collaboration and coordination with:
    - ❑ THSA
    - ❑ NHIN
    - ❑ Medicaid
    - ❑ Public health
    - ❑ Regional extension centers (RECs) and other ARRA programs
    - ❑ Other HIEs
  - ❑ Service offering will enable providers to achieve meaningful use

- ❑ Patients' needs are at the center of the model
  - ❑ Security and privacy policies and procedures are in place and aligned with state and federal regulations
  - ❑ Sustainability direction and approach exists and seems reasonable
2. Develop an RFA for local HIE grant program.
  3. Develop an RFI to further identify other organizations and systems that may offer HIE services in a community but not seeking funding through this grant program.
  4. Accept and evaluate applications from local HIEs based on meeting minimum criteria for applying/candidate local HIEs and stated intent to plan for, and implement core HIE services, and required policies and standards for HIEs (as described above in General State-Level Operations).
  5. Present funding recommendations to the THSA Board of Directors
  6. Award grants through the HHSC to qualifying local HIEs to:
    - a. Develop plans for upgrading or implementing local HIE infrastructure to deliver core HIE services, and implement required policies and standards.
    - b. Upgrade or implement local HIE infrastructure to deliver core HIE services, and implement required policies and standards; and
    - c. Monitor and evaluate local HIE impact to inform sustainability planning.
  7. Given the reliance on local networks to support HIE capabilities for meaningful use, the THSA will develop a mitigation strategy and approach by January 2011 to ensure continuity of services in the event a local HIE fails.

Initially, the local HIE grant recipients will be required to deliver the core HIE services identified in the July Program Information Notice (PIN):

- ❑ E-prescribing
- ❑ Receipt of structured lab results
- ❑ Sharing patient care summaries across unaffiliated organizations

In addition to these elements of HIE, local HIE grant recipients must also commit to work with the THSA and HHSC to identify strategies for delivering the other elements of HIE identified in the original Funding Opportunity Announcement:

- ❑ Electronic eligibility and claims transactions
- ❑ Electronic public health reporting (i.e., immunizations, notifiable laboratory results)
- ❑ Quality reporting
- ❑ Prescription fill status and/or medication fill history

One advantage of leveraging local HIEs is to increase the outreach and level of activity at the local level. Local HIE partners will be asked to develop strategies to increase lab and pharmacy automation in their communities. Additionally, local HIEs will be requested to sponsor a community dialogue with their REC around the HIE planning process.

Finally, local HIEs will be required to adhere to statewide HIE policies adopted by the THSA and participate in the THSA's monitoring and evaluations.

#### 15.1.4 White Space Strategy

To ensure all eligible providers can achieve the HIE meaningful use requirements, HHSC and THSA will contract with one or more entities to provide HIE connectivity to regions of the state without local HIEs. Specifically, the THSA will:

1. Develop a request for proposals (RFP) to provide HIE services for areas not served by a local HIE. Respondents can propose to cover some or all of the unserved areas. Innovative financing

models are encouraged. Eligible respondents can include vendors, local HIEs, RECs, or any others with the technical capacity to deliver HIE services.

2. Accept and evaluate proposals for quality, cost, readiness, coverage, and stated willingness to deliver core HIE services, implement required policies and standards for local HIEs, and participate in program evaluation.
3. Execute contracts with respondents to establish full HIE coverage of white space.
4. Monitor contracts to ensure delivery of core HIE services and adherence to required policies and standards for local HIEs.
5. Monitor and evaluate impact to inform sustainability planning.

Initially, the white space contractor(s) will be required to deliver the core HIE services identified in the July Program Information Notice (PIN):

- ❑ E-prescribing
- ❑ Receipt of structured lab results
- ❑ Sharing patient care summaries across unaffiliated organizations

In addition to these elements of HIE, the white space contractor(s) must also commit to work with the THSA and HHSC to identify strategies for delivering the other elements of HIE identified in the original Funding Opportunity Announcement:

- ❑ Electronic eligibility and claims transactions
- ❑ Electronic public health reporting (i.e., immunizations, notifiable laboratory results)
- ❑ Quality reporting
- ❑ Prescription fill status and/or medication fill history

The white space contractor(s) are expected to fill the same role in their communities as the local HIEs. This includes the expectation that the white space contractor(s) will develop strategies to increase lab and pharmacy automation and connectivity in their award areas. They will also be expected to sponsor a community dialogue with their REC(s) around the HIE planning process. The white space contractor(s) will be required to adhere to statewide HIE policies adopted by the THSA and participate in the THSA's monitoring and evaluations. Finally, the white space contractor(s) will be required to support point-to-point connectivity through NHIN Direct.

## 15.2 State-Level Shared HIE Services

The THSA will develop state-level shared services by commissioning consulting services to support the development of the services listed below in 2012.

- ❑ **Record Locator Service:** This service will support secure federated queries to support the exchange of clinical information about patients between local and regional HIEs.
- ❑ **Connectivity to Statewide Data Sources:** This service will support secure connectivity to statewide data sources, including Medicaid and state public health programs, and potentially other private data sources such as health plans.
- ❑ **Provider Directory Services:** Implementation of consistent provider directories across local and regional HIEs in Texas will help to enable statewide HIE. The THSA will work with stakeholders to develop a statewide approach to supporting the development of uniform provider directories across all local and regional HIEs in Texas, including but not limited to: coverage, content, standards, data validity, data accuracy, distribution channels, funding, and business terms of use and policies.

- ❑ **NHIN Connectivity:** This service will support the secure connectivity between local and regional HIEs in Texas with other authorized organizations and HIEs across the nation.

## 15.3 Implementation and Evaluation

The Strategic and Operational plans are designed to provide guidance and communicate the steps that must be taken to enable statewide HIE in Texas. These plans will be dynamic and will be updated and continually evolve over time as the HIE environment in Texas and the nation evolves, new needs are identified, and as strategies are addressed and fully implemented.

### 15.3.1 Evaluation of the State Plan

Under these plans, the THSA, in coordination with the state HIT coordinator, is responsible for ensuring coordination with HIT and HIE partners to implement the goals and objectives set forth in these plans. The THSA will serve as the forum for discussion and as the decision-making body for changes to the Strategic and Operational plans. Through this coordinated approach, Texas will work to ensure all HIE/HIT funding streams—federal, state, local, and private—will be identified, coordinated, and linked to ensure a maximum return on investment.

### 15.3.2 Evaluation of HIE Services

All HIE development activities will be tracked through the THSA and performance measured to ensure progress is being achieved. In order to assess the effectiveness of the approach and strategies outlined in the Strategic and Operational plans, and to ensure HIE meaningful use capabilities are available statewide, the THSA will baseline, monitor, and report on the following measures:

- ❑ Percent of health plans supporting electronic eligibility and claims transactions;
- ❑ Percent of pharmacies accepting electronic prescribing and refill requests;
- ❑ Percent of clinical laboratories sending results electronically; and
- ❑ Percent of health departments electronically receiving immunization, syndromic surveillance, and notifiable laboratory results

Additionally, the THSA will consider other measurements and metrics that should be monitored and tracked by June 2011.

### 15.3.3 Evaluation of Financial Impact

The THSA will monitor sustainability models implemented by local HIEs in 2012 through financial reports and ongoing communications.

Later stages of meaningful use will require meaningful use incentive recipients to utilize some HIE functions. It is assumed in these plans that the demand for such services should be strong in 2013. In 2013, the THSA will conduct its first evaluation of its sustainability model and the models implemented by local HIEs. The development of this evaluation will begin in 2011 to ensure that it is able to fairly capture a diverse set of goals and measures established by local HIEs, allow time to reassess the evaluation tools, and ensure that the process can incorporate lessons from evaluation experiences in other states and at the national level. When the evaluation takes place in 2013 Texas will be able to determine if state and local HIEs are progressing toward sustainability, learn from examples that indicate success, and have an early warning in areas that may not be on a sustainable track.

Finally, in 2014 lessons from the state and local evaluations and the HIE value study will enable Texas HIEs to strengthen their sustainability models. Monitoring and evaluating state and local HIEs in terms of sustainability and achieving HIE capabilities for meaningful use will be an ongoing function of the THSA.

15.4 Risk Mitigation Strategies

Planning Domain	Risk	Rating*	Mitigation Plan(s)
Governance and finance	Timing to develop critical mass of data sources and provider adoption lasts past ONC funding available	2	Actively manage progress of HIE deployment and work within the governance process to adjust plans as appropriate
Legal and policy	Lack universal consent forms for HIEs	2	Continue to work with workgroup and then Collaboration Council after implementation funding approval to develop a universal consent form
Legal and policy	Lack universal policies and procedures for security for participating HIEs	3	Continue to work with workgroup and then Collaboration Council after implementation funding approval to develop security policies and procedures
Legal and policy	Lack universal policies and procedures for data sharing for participating across HIEs	3	Continue to work with workgroup and then Collaboration Council after implementation funding approval to develop security policies and procedures, monitor and begin planning/harmonization process with neighboring states
Legal and policy	Lack policies and procedures tailored to sensitive health information across HIEs	3	Continue work with workgroups and then Collaboration Council after implementation funding approval to develop and conduct end user surveys to collect needed data
Legal and policy	Security needs assessment of local and regional HIEs	2	Continue to work with workgroups and then Collaboration Councils after implementation funding approval to develop and conduct gap analysis and develop set of recommended harmonizing security policies and procedures
Legal and policy	Lack policies and procedures handling contract disputes	1	Leverage HHSC’s grant administration processes, lawyers, policies, and procedures to address any contract disputes
Technology infrastructure	Using teams from a diverse group of sources to achieve THSA’s technical vision	1	Implement strong service level agreements (SLAs) with significant penalty clauses to ensure compliance with plan milestones; develop, maintain, and enforce a strong incremental deliverable schedule
Technology infrastructure	Missing deliverables and due dates	2	Perform ongoing verification of compliance with project plan and deliverables
Technology infrastructure	Using an “incremental” approach to building a statewide HIE	2	Match constituents’ technical needs to available human, technical, and physical resources

Planning Domain	Risk	Rating*	Mitigation Plan(s)
Technology infrastructure	Service disruption	2	Monitor network capacity, adjust to load changes; implement robust disaster recovery and backup plans; practice downtime procedures
Technology infrastructure	Insufficient adherence/non-compliance to statewide interoperability standards and THSA technical vision	1	Provide clear THSA architecture vision and strategy through THSA architectural blueprint and roadmap; educate constituents, monitor compliance, and provide resources for assistance; develop and enforce escalating penalties for non-compliance, up to and including loss of HIE charter
Technology infrastructure	Inability of technical infrastructure to support THSA goals	3	Educate constituents, monitor compliance, provide resources for assistance
Technology infrastructure	Availability of adequate access to broadband services to sustain meaningful use	2	Work with providers and agencies to ensure broadband deployment precedes implementation
Technology infrastructure	HIEs/RECs lack sufficient funding for infrastructure required to sustain meaningful use criteria	2	Assist HIEs and RECs in budgeting appropriate funds to acquire and support required infrastructure
Technology infrastructure	Stakeholders in a collaborative environment do not meet the THSA’s business objectives and recommendations included in chartering an HIE	2	Implement strong SLAs according to charter for HIEs and enact appropriate penalties for non-compliance with agreed-upon objectives; require that progress be reported according to a to-be-determined timeline
Technology infrastructure	Having an inconsistent or non-synchronized approach to building HIE	1	Create a statewide enterprise architecture and roadmap that defines what standards are required and need to be implemented in an incremental manner; give chartered HIEs a roadmap to achieving HIE goals; evaluate HIEs on an annual basis to ensure they are meeting the stated objectives
Technology infrastructure	Interoperability testing may fail	2	“Standards” are not necessarily standard; the use of interfaces between supposedly standardized systems may be required
Technology infrastructure	RECs/HIEs fail to share all the required information.	2	Develop clear and concise guidelines for data sharing; non-compliant entities subject to losing privileges/funding opportunities
Technology infrastructure	Unmanageable statewide complexity and cost/funding	3	Efficiently execute statewide oversight responsibilities; establish statewide interoperability standards and network blueprint and provide consultative services to assist HIEs; establish a reasonable roadmap to simplify incremental implementation

Planning Domain	Risk	Rating*	Mitigation Plan(s)
Physician adoption	HIE and EHR adoption rates may be slow initially and not meet growth expectations	2	Increase communications related to meaningful use incentives and benefits of participating in the HIE; target communications at both consumer and providers; leverage consumer relationship as they will help drive physician adoption
Physician adoption	Risk of initial technical failures or poor installation as the program is initiated	3	Begin garnering physician trust early by engaging key professional groups and seeking governance membership; make sure providers are at the table and part of the solution; upon plan approval, immediately start communication and marketing activities, educating providers and building trust
Physician adoption	Technology may become cumbersome and not integrate into clinic workflows efficiently	2	Engage providers in the governance structure on all design, build, and validation sessions
Consumer engagement	A greater number consumers will opt out of the HIE than expected due to privacy and security issues	3	As with providers, start building trust with consumers as soon as possible by initiating a targeting marketing and communication plan; engage the Health Information Security and Privacy Coalition to review its toolkit and leverage key lessons learned and tools; secure additional marketing resources to increase the number and rate of communications to the public
Business operations	Failed HIEs	3	The THSA will develop a mitigation strategy and approach by January 2011 to ensure continuity of services in the event a local HIE fails.
Business operations	HIE downtime	2	THSA anticipates downtime processes will be part of its architectural/technology standards. Accordingly, the THSA will require the THSA certified HIEs to adopt, operate, and comply with these standards in order to provide for appropriate data visibility during downtimes.
Business operations	HIE downtime data linkage	2	THSA anticipates data linkage issues during downtimes will be part of its architectural/technology standards. Accordingly, the THSA will require the THSA certified HIEs to adopt, operate, and comply with these standards in order to provide for appropriate backup mechanisms data linkage downtimes.

\* Risk rating:

1. Low risk: low impact on cost, timeline, and rollout of plan(s)
2. Moderate risk: some impact on cost, timeline, and rollout plan(s)
3. High risk: definite impact on cost, timeline, and rollout of plan(s)

## 16. Domain-Specific Components: Legal/Policy

### 16.1 Goals

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The State of Texas, in its effort of planning and strategizing a statewide HIE, is in the process of significant strides in terms of developing a comprehensive legal and policy framework. Texas' legal and policy strategy is moving forward to build upon the framework and processes that are currently in place and to accomplish the following strategic goals:

- ❑ Pursue health information exchange that is secure and protects patient privacy
- ❑ Establish state laws, policies, and procedures that are aligned with secure health information exchange within and beyond state borders
- ❑ Create trust agreements that enable all participating parties to share and use data
- ❑ Provide oversight and enforcement to ensure compliance with federal and state laws and policies applicable to health information exchange

Each of these goals is described in more detail below.

#### **Pursue health information exchange that is secure and protects patient privacy**

The Privacy and Security Taskforce will continue to be a key vehicle to evolve the statewide legal and policy framework. This taskforce will provide guidance on policies and procedures and document this guidance for all the HIE participants who will benefit from the statewide HIE efforts. These guidelines and policies will need to be periodically revisited and refined through the Privacy and Security Taskforce based on implementation experience.

#### **Establish state laws, policies, and procedures that are aligned with secure health information exchange within and beyond state borders**

Under NHIN, the participants of the health information exchange would need to continue to participate in the NHIN Data Use and Reciprocal Support Agreement (DURSA) Workgroup to provide input from Texas' perspective and track versions of the DURSA that get issued.

The participants will need to pursue discussions with bordering states whereby each HIE participant would need to use its participation in the statewide HIE program to pursue discussions with bordering states on how to advance HIE among their states.

The THSA will continually track regulations and policies emerging from the federal government and align the group to ensure that Texas policies are consistent with federal policies and regulations (and resulting policies within state programs such as Medicaid).

#### **Orchestrate levers of state policy to advance health information exchange**

Currently, the privacy and security policies and procedures for Texas health information infrastructure needs to include procedures governing interoperable health information exchange as well as interoperable EHRs. The scope includes a full range of privacy and security policies for interoperable health information exchange, including: authorization, authentication, consent, access, audit, breach notification, and patient and provider engagement policies. The privacy and security policies need to be part of the

statewide policy guidance. These policies and procedures represent the minimum standards with which projects—currently local HIEs—and providers participating in a health information exchange must comply. All projects funded under the local HIE grant program or through the white space coverage process will be required to comply with the privacy and security policies and procedures. Wherever appropriate or where required by the operational models and/or governance structures of the THSA a project may delegate certain responsibilities set forth in its privacy and security policies and procedures to its participants. However local HIEs and providers participating in the HIE remain responsible for requiring their participants to comply with the minimum policies set forth.

### **Create trust agreements that enable parties to share and use data**

The statewide HIE will pursue collaborative work among all the local HIEs including those who wish to participate in a statewide collaboration to develop a contractual model and the necessary agreements to support their participation in the statewide HIE and adherence to the statewide policy guidance. There must be a willingness among participants to develop an accompanying governance framework to ensure the necessary oversight and enforcement of these agreements. Participants in legal agreements for shared services funded through the THSA and under the statewide HIE program would need provisions specific to those shared services the THSA chooses to fund.

The THSA will need to have oversight and enforcement to ensure compliance with federal and state laws and policies applicable to health information exchange. Participants will need to explore oversight and enforcement policies as part of the discussions on advancing the legal and contractual framework that can maintain trust in the effective operation of the statewide HIE.

### **Ensure strong education and communication program to engage key constituencies**

The THSA will expand its existing education and communication activities. The new funds will be used to identify the communication activities, media channels, and timelines necessary to reach diverse audiences. The THSA will also consider implementing a health IT awards program that recognizes persons and institutions for outstanding use of health IT. It will also undertake a stakeholder partnership program that identifies ways to keep key stakeholder constituencies aware of emerging health IT policies.

### **Engage other states in state HIE program on education and communication activities**

As part of the statewide HIE program, it is anticipated that there will be opportunities to advance collaborative projects with other states in developing strong education and communication campaigns.

Ongoing meetings of the Privacy and Security Taskforce will need to include convening local HIEs to discuss contractual frameworks and associated legal agreements and to finalize an initial contractual framework and associated legal agreements. Draft contractual agreements related to shared services will be dependent on progress made on implementing those shared services.

## **16.2 Consent**

The THSA is dedicated to promoting the development of an electronic health information infrastructure that improves the quality, safety, and efficiency of health care while protecting individual privacy. Existing data on public opinion shows that patients want to see a greater use of health information technology but also value the privacy of their personal health information. Recent changes to HIPAA will help strengthen patient privacy rights, but, in addition to federal laws, the THSA could also adopt a consent policy to add an additional layer of patient protection and control.

Five consent options have been considered by the THSA's Privacy and Security Workgroup and, based on their responses, the three strongest options were identified. These options, opt-out, opt-out with exceptions, and opt-in could all potentially offer additional patient protection while achieving the goals of statewide HIE.

Prior to the 2011 session of the Texas Legislature, the THSA will continue to study consent by:

- ❑ Conducting focus groups to study Texans' opinions regarding consent and the potential tradeoffs between quality, cost, and control of medical information;
- ❑ Monitoring research on participation and the impact that consent policies have on achieving the efficiency and quality objectives of HIE;
- ❑ Monitoring the implementation and administration of consent policies to develop best practices that improve participation and privacy;
- ❑ Studying the reactions to and effects of the policies used in the Medicaid HIE pilot;
- ❑ And, pursuing other opportunities identified by the THSA to inform the development of a consent policy and process.

This information will help the THSA develop a statewide HIE consent policy in the early stages of implementation and ensure that the final policy protects patient privacy, reflects the best interests of the State's health care system, and enables providers to respond to complete and reliable data.

### 16.3 Compliance with Federal/State Requirements

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The THSA will enforce all privacy and security HIE requirements through contracts. Oversight activities for THSA members may include reviewing HIE agreements, policies, and procedures related to privacy and security, and receiving notice of breaches. The THSA will also have to consider enforcement policies and procedures and what, if any, sanctions or remedies it may need for breaches.

Participants would need to have internal capabilities to audit disclosures and regularly monitor to protect against unauthorized access and use. These capabilities should be common statewide and finalized through the statewide collaborative process. Staff need to be designated to oversee privacy, consent and security management functions. HIEs should provide ombudsman services to consumers to handle questions and facilitate referral for complaints. The THSA needs to develop policies regarding participants and providers roles and responsibilities in the event of an unauthorized disclosure, disposition of complaints, consumer notification and access to information about disclosures.

Texas would need to conduct research into the potential opportunities for an accreditation program for the regional and local HIEs. This would be done by convening an expert panel, interviewing accreditation organizations to learn more about potential opportunities and challenges of such a process, and developing a white paper to document that research and summarize the findings.

The THSA might issue a trust mark or "seal of approval" that HIEs may use to warrant compliance, or it may leverage participation in or access to state-based connections. Otherwise, it will have to rely on other enforcement groups such as the OCR or FTC at the federal level or the state's Office of Attorney General.

The THSA may wish to begin drafting its policy and procedures for privacy and security oversight. This will likely require consultation with privacy and security experts with a legal background. Alternatively, the THSA may wish to partner with a state agency such as HHSC to tap its internal privacy and security experts. The THSA should create policies and procedures that foster a spirit of transparency through independent auditing. Auditing could occur in conjunction with its preparation of the THSA's statutorily required annual report to the Governor and the various legislative bodies.

## 16.4 Privacy and Security Harmonization

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The THSA will ensure that Texas policies and laws regarding privacy and security are harmonized with federal guidelines (e.g. the HIPAA Privacy Rule) and the laws of bordering states. Significant work has already been done in analyzing how state laws conform to federal regulations. The Texas Office of the Attorney General assembled a group of stakeholders in 2004 to evaluate the impact of the 2003 version of the Privacy Rule for preemption of state laws. This committee reported several concerns related to inconsistent definitional terms, lack of a unified body of law, and other issues with existing state laws. The privacy and security workgroup legal revisited this issue and found similar issues. As the THSA has no rulemaking or legislative authority to directly affect the current state law, it may wish to report this assessment in its next report to the Governor and other legislative bodies so the state can begin working on these issues.

Some of the challenges facing HIE stakeholders include issues associated with allowing care providers partial access to protected health information (PHI), as designated by the patient or their surrogate. This has been referred to as “segmentation,” and is an important consideration for certain conditions such as mental health disorders and sexually transmitted diseases. For example, a system may be designed to allow patients to restrict access to a diagnosis such as AIDS, but the lab tests that are used commonly with this condition, such as CD4 counts and certain medications, unless also suppressed, would compromise the intent of protecting the core diagnosis of AIDS. While certain components of the patient’s history may be specific to this condition, other forms of medical data (e.g., weight loss, adenopathy, a history of cryptococcal meningitis) may be important for other providers to be aware of, but may also be suggestive of HIV disease.

While one of the key goals of HIE stakeholders is to protect sensitive information from being shared without patient consent, it may be difficult for many patients to fully comprehend the implications of blocking portions of their record from future use by clinicians. Workflow, content (utilizing domain experts), technical, patient safety, provider education and patient education issues need to be evaluated if HIEs move forward with granular segmentation of PHI.

To foster growth of state and national efforts to build the National Health Information Network, THSA will begin working with Arkansas, Louisiana, New Mexico, and Oklahoma to begin harmonizing laws for across-the-border sharing of protected health information. This process will require review of existing state laws of the states wishing to participate. Such a review will likely detect legal barriers that will invoke legal questions of whose law applies in disputes arising out of torts, contract disputes, violations of privacy, confidentiality, or security, or discriminatory practices. Jurisdictions may require a review of their choice of laws and law of conflicts to understand how they may or may not apply to the digital world. These efforts will complement those of the ONC’s Privacy and Security Tiger Team, which is providing recommendations to the ONC which in turn may lead to regulatory changes.

## 16.5 Federal Requirements

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The THSA intends to comply with federal requirements for the utilization, protection, and movement of personal health information. To ensure private and secure exchange with federal care delivery systems—primarily the VHA and DoD—connectivity will be provided either via direct connection or through NHIN Connect depending on the architecture and systems being utilized by the state and/or regional HIEs.

## 17. EHR Adoption and Consumer Engagement

To implement a transparent process to define and operate the Texas Health Information Exchange, the THSA will ensure that a broad spectrum of stakeholders is present in all levels of the governance structure. This will necessitate the participation of the following group in the HIE governance group.

Key groups included but not limited to;

- ❑ Consumers and Consumer Advocates
- ❑ Employers
- ❑ Health insurers
- ❑ Providers and provider organizations (e.g., TMA)

Each will be engaged to determine the appropriate level of participation and representations.

### 17.1 Provider Adoption

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To spawn successful adoption of the program by Texas medical providers the THSA will ensure compliance with all CMS meaningful use requirements as outlined by the ONC so that eligible providers are able to capture all federal financial incentives as costs are the recognized greatest barrier to adoption. These incentives will be administered by CMS under the Medicare program and by the state Medicaid agencies under the Medicaid program. With the release of the Final Requirements by CMS, the ONC has recognized that a tiered services approach will have a greater impact in achieving adoption. The THSA governance group will include direct input from providers to make sure that all are at the table during key vision, planning and implementation activities as we realize that providers are more responsive when treated as partners. Quality will be measured from initial planning through delivery and operations. The THSA board will work with the ONC and State stakeholders to identify success criteria. As those are realized, adoption rates will increase to critical mass and the tipping point of the HIE will be realized. But for this to happen, a thoughtful approach to technical deployment will be crucial. Implementing technologies that are cumbersome and impediments to established clinic workflows will not foster the needed adoption. Use cases of required HIE functionality will be developed and reviewed with appropriate clinic stakeholders to ensure that services delivered not only meet State and Government requirements, but those of the providers.

### 17.2 Consumer Engagement

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Although HIE organizations vary in maturity from organization and state to state, there are plenty of lessons learned and tools in existence to leverage. In 2011, the THSA will engage groups such as the Health Information Security and Privacy Coalition to review their experiences and lessons learned. The group will reach out to other approved states to solicit their best practices as well.

The development of a sound marketing approach to develop a brand for the HIE needed to create a single identity in the market place will be forthcoming. Consumer advocacy agencies will be engaged to partner on the development of materials that will address patient concerns and articulate the benefits of HIE and EHRs. The state will partner with the RECs to ensure ‘one voice’ on the statewide approach to HIT is communicated.

Funding will be secured to ensure that all materials and marketing venues are available.

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### 17.3 Personal Health Records

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The THSA appreciates the potential value and future role of personal health records (PHRs) in supporting the exchange of health information and empowering consumers to improve their overall health. Through the Collaboration Council and Consumer Engagement Taskforce, the THSA will consider the development of standardized policies, procedures, tools, programs, and best practices for engaging patients in using their data to help them manage their health. The THSA will also explore the value of developing patient portals at the local HIE or state level to support exchange of PHR information, such as patient demographics, consent, and self-reported medication information.

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### 17.4 White Space Approach

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As identified in the strategic plan, Texas has a significant amount of rural space that will need to be supported. The THSA realizes the necessity of providing a ‘safety net’ of HIE services until private sector maturation and market consolidation takes place in the rural communities of Texas. The plan is for Texas to adopt a standards-based shared services model that enables the integration of state and community level efforts to ensure that all providers have the ability to meet meaningful HIE requirements in 2011.

To ensure statewide coverage, the HHSC and THSA will contract with one or more entities to provide HIE connectivity to regions of the state without local HIEs. The THSA will develop an RFP to provide HIE services for areas not served by a local HIE. Respondents will be able to propose coverage for some or all of the unserved areas. Innovative financing models will be encouraged. Eligible respondents could include vendors, local HIEs, RECs, or any others with the technical ability to deliver HIE services. Proposals will be evaluated for quality, cost, readiness, coverage, and stated willingness to deliver core services, implement required policies and standards for local/regional HIEs, and participate in program evaluation. The execution of these contracts will establish full HIE coverage of the state’s white space, and their monitoring by the THSA will ensure the delivery of core HIE services, adherence to state policies and standards, and inform ongoing sustainability planning.