

PAPER I

METHODS STATES
USE TO ORGANIZE
AND PROMOTE
HEALTH
INFORMATION
EXCHANGE

Abstract

We interviewed informants in 52 states and territories to understand the policy levers and actions they have used to organize and promote health information exchange (HIE) services within their jurisdiction. We found a wide variety of approaches, ranging from very engaged states to those which have largely left the solving of interoperability and exchange challenges to the marketplace of private technology vendors. We also examined ways in which states themselves are leveraging HIE capabilities, finding a wide range of results.

Background

Nearly every state¹ has one or more health information exchange organizations which are dedicated to the health data interoperability needs specific to the jurisdiction. Most states have taken steps to organize and promote exchange activities, including in some cases by establishing new organizations. States often use or more of the following approaches: designating one or several HIE organizations in an official role; establishing exchange services within a state agency; funding the buildout of private exchange infrastructures; incentivizing or mandating participation by payers and providers;² or using legislation and regulation to protect patient privacy when information is exchanged. The approach of each state can be called unique, as no two states are using quite the same combination of policy levers and actions. But while the variation among state approaches is significant, we were able to identify unified themes during our investigation. Here, we categorize the approaches in a proposed conceptual model, describing common characteristics and the frequency of each among the states in our study.

We also examined the ways state HIEs provide services to the state government itself, especially Medicaid and public health agencies. The need for HIE capabilities within state government adds to the reasons for a state to take active interest in the development of HIE. While we did not specifically focus on the changes to state approaches over time, it is apparent that HIE services to state governments have grown significantly during the Covid pandemic. As policy makers consider ways to improve public health infrastructure in the wake of the pandemic, HIEs could provide important and unique capabilities. States which are served by mature HIEs will have options that others may not.

HIE Framework

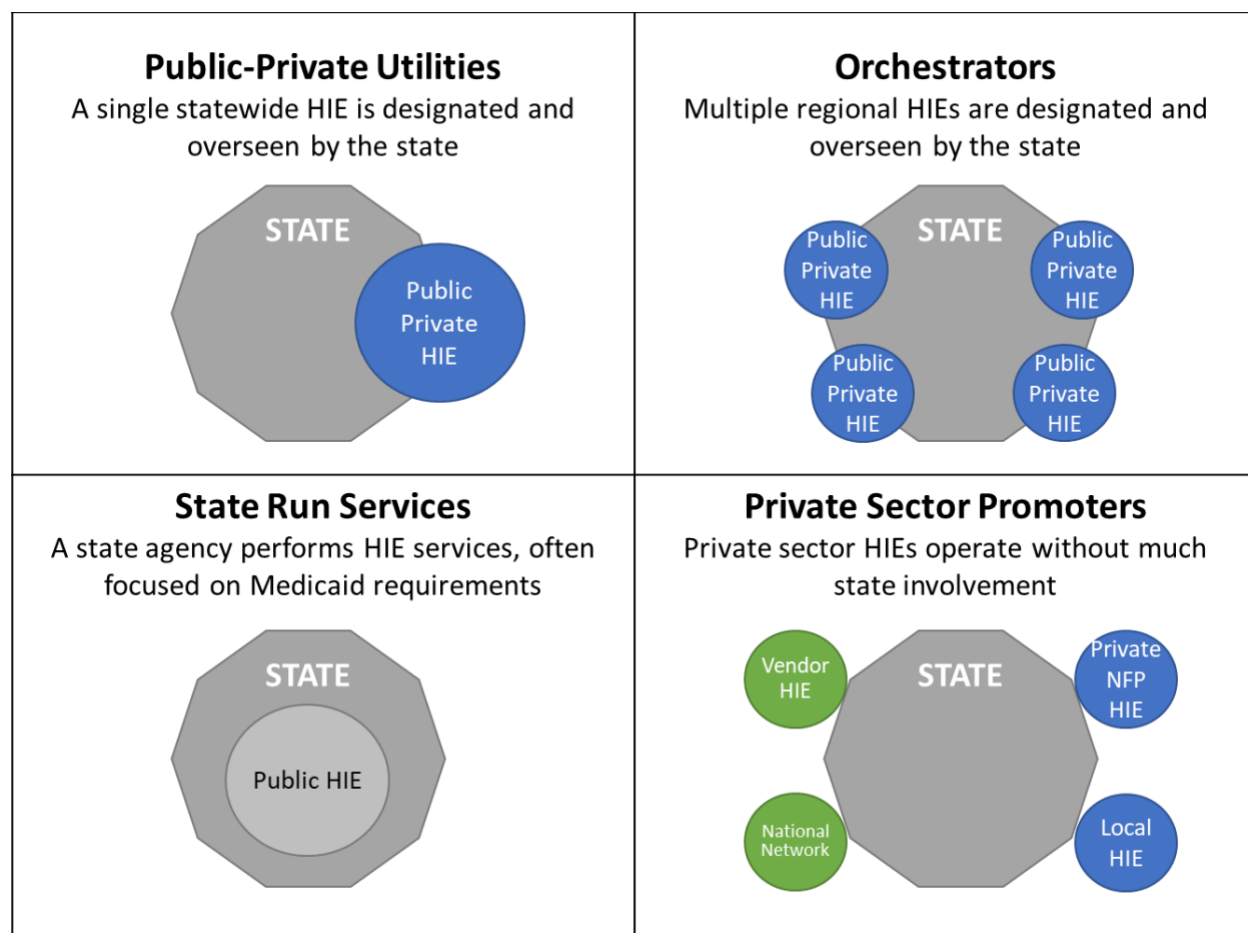
Four categories of state approaches are described in our framework, or typology, with a fifth category for states which are transitioning between approaches. It is worth noting up front that some states have adopted elements from more than one of these categories, so they do not fit neatly into one type of the framework. We have necessarily made judgment calls as described below. It is also important to note that our analysis does not include all varieties of health information exchange happening across the country. National networks, venture-backed companies, Electronic Health Record (EHR) vendors, health systems, and administrative networks are all performing important functions in most states. Rather, our emphasis is on the

¹ For readability, we use the generic “states” to include Puerto Rico and the District of Columbia in this paper.

² See Horrocks D, Young L, Bari L, **Incentives and Mandates States Use to Promote Health Information Exchange**, Civitas Resource Site, June 2022, for a more detailed investigation of these policy levers.

state based HIEs, which while overlapping in capabilities with these other networks, often serve additional purposes not met by the marketplace. It is further worth recognizing that in many cases state based HIEs are relying on the underlying technical capabilities of these other participants, underlining their importance of many organizations to the interoperability ecosystem.

More than a decade ago, the U.S. Department of Health and Human Services (HHS) Office of the National Coordinator for Health Information Technology (ONC) created a typology for state HIE plans which were being pursued under the HITECH grants.³ That typology, published in February 2011 captures a few of the themes still seen today, but we believe the market has evolved to the point where a new one is required.



Public-Private Utilities

The most common method by which states organize HIE services within their jurisdiction is to partner with a single private non-profit organization, which is governed by a multistakeholder Board of Directors usually representing key HIE participants, government representatives, and community organizations, and to rely on that organization to develop capabilities that healthcare providers, health plans, and the state itself will leverage. Twenty-two of the 52 interviewed

³ Office of the National Coordinator for Health Information Technology presented “**State HIE Strategic and Operational Plan Emerging Models**” at the February 16, 2011 Health Information Technology Coordinators’ Teleconference. It is referenced in the following:
<https://www.healthit.gov/sites/default/files/pdf/state-health-info-exchange-program-evolution.pdf> on page 7.

states or territories used a version of this “*Public-Private Utility*” model. States designate or specifically identify a single organization, usually relying on enabling legislation (17 states), but sometimes an organization is identified in an executive order (5 states). Of those with enabling legislation, most define a process by which a state authority selects its HIE designee, while four states named the organization directly in state law.⁴

States with *Public-Private Utilities* are actively funding their HIEs, almost always partnering with the organization to secure federal funding, which often flows through the Medicaid agency. The states have usually made significant contributions to the development of the non-profit HIE, and sometimes a formula for ongoing funding is built into the state budget. The path for the state itself to purchase services from its designated HIE is usually made easier than typical state procurements, through a variety of sole source justifications and rules.

Most states using a *Public-Private Utility* model place special obligations or restrictions on their designees. Seven of the states have a formal process to promulgate HIE regulations, while seven others use the contracts the organizations sign with the state (such as a designation agreement) to impose regulation-like terms. These obligations often relate to how data may be used, patient privacy, or how consumers will have a voice in the functioning of the HIE.

An increasingly common approach to promoting interoperability within a state is to create a mandate or strong incentive for organizations to send selected data to the designated HIE.⁵ The HIEs use these data for tightly defined purposes, including to communicate patient-identified information to clinicians in the field, creating population health reports, and to enhance public health data by combining it with other clinical information in the HIE. Thirteen of the 22 *Public-Private Utility* states have created mandates or strong incentives. Medicaid contracts or reimbursement rates are often the mechanism to accomplish that aim. In 15 *Public-Private Utility* states the HIE receives data which the state collected under an existing public health authority, which might include reportable disease registries, EMS data, Medicaid claims, immunization registries, or Prescription Drug Monitoring Program (PDMP) records. Again, the purposes for which these data are used are tightly defined.

Example states: Arizona, Delaware, Nebraska, Rhode Island

Orchestrators⁶

Seven of the surveyed states or territories have pursued a strategy which seeks to be actively involved in the promotion of HIE services via private entities, but which relies on sub-state

⁴ In 2015 ONC identified 15 states using “State Designation of Exchange Entity” as a policy lever in its State Health IT Policy Levers Compendium. Details are available at the following site, accessed June 2022: <https://www.healthit.gov/data/apps/state-health-it-policy-levers-compendium>

⁵ See Horrocks D, Young L, Bari L, **Incentives and Mandates States Use to Promote Health Information Exchange**, Civitas Resource Site, June 2022.

⁶ The typology created by ONC for state HIE plans included a category called “Orchestrator”. While we use the term differently, for reference the four categories ONC created were:

- **Elevator.** Rapid facilitation of directed exchange capabilities to support Stage 1 meaningful use with intention of moving to additional phases of exchange over time.
- **Capacity-builder.** Bolstering of sub-state exchanges through financial and technical support tied to performance goals.
- **Orchestrator.** Thin-layer, state-level network to connect existing sub-state exchanges.
- **Public-utility.** Statewide HIE activities providing a wide spectrum of HIE services directly to end-users and to sub-state exchanges where they exist.

regional organizations rather than one statewide HIE. These states are *Orchestrators*, either by naming a state agency to facilitate the work of the regional HIEs (4 states), or by designating a non-profit organization to serve as the coordinating body (3 states). In six of the seven examples, the state is formally certifying the regional HIEs, placing requirements on them, and directing funding in some manner.

Among states with multiple HIEs, there are no distinct lines between those which can be considered *Orchestrators*, in that they are actively involved, and those which might better be considered *Private Sector Promoters*, providing limited coordination. New York state is very actively engaged in promoting its regional HIEs via a designated private non-profit, while Texas has relied on a state agency for the narrow purpose of coordinating certain statewide connectivity for its multiple HIEs. In both cases the regional HIEs are officially recognized in some manner and have received funding that was only available to designees, but Texas has a more hands off approach. Massachusetts does not formally designate the regional HIEs which participate in its Mass HIWAY for clinical encounter notifications, but it does use contracts to place obligations on the participants. All three states were deemed *Orchestrators* in this analysis.

A distributed HIE approach, which is at the heart of the *Orchestrator* model, is more common in states with large populations and geographies, such as New York and Texas. At the time HITECH funds were first made available, such states were more likely to have existing regional HIEs, operating somewhat independently. Policy makers at the time likely did not want to abandon the good progress of the existing players, choosing to support multiple HIEs instead. Distributed HIEs should, in theory, create competition within a state and allow for the best operators to gain market share. A handful of states, including Georgia, Michigan, and Minnesota, began with an *Orchestrator* model but have experienced HIE consolidation over time.

Regarding public health services, states with multiple HIEs are likely to find a distributed model more complicated to leverage. For instance, a single statewide Master Person Index (MPI) can be used to combine clinical data with public health registries, to enhance the resulting public health dataset. When that data exists in multiple source systems, such a capability will be more challenging to implement.

Example states: Massachusetts, New York, Pennsylvania, Texas

State-Run Services

Nine of the surveyed states or territories were primarily focused on promoting services provided by a state agency directly. The breadth of these services varies, ranging from HIEs used almost exclusively in support of the Medicaid program to full-service HIEs serving many stakeholders. Procurement and governance challenges are eased for states which want to invest in an HIE, when that function is in state government. However, when a state agency holds significant quantities of clinical data for citizens another set of oversight challenges exist. To broaden the leadership of HIEs inside an agency, seven of the nine states created an advisory board or other governing body to direct the work, comprised of participants and community members. It is also noteworthy that, in practice, an HIE run by a Medicaid agency may not necessarily be highly engaged in supporting the department of public health.

Seven of the *State-Run Services* states used enabling legislation to establish their HIE. Two states relied only on an Executive Order to create the HIE, raising the question of stability across administrations. However, while it was not a primary area of our investigation, we did not find significant policy changes occurring between administrations. Indeed, administrative orders and Medicaid policy decisions were a component of the strategy for states in all categories of our framework. Respondents described relative stability of such policy directives even as new Governors came into office.

Example states: Alabama, Florida, North Carolina, Wyoming

Private Sector Promoters

Eleven states have taken a largely hands-off approach to promoting health data interoperability, allowing the private sector to lead. Eight of the eleven have multiple noteworthy HIE organizations operating. Of this group, three states do have an official designation for their HIEs, but the purposes of that designation are narrow, and our assessment places them in the *Private Sector Promoters* category rather than the *Orchestrators* category.

Such states, while less active in directly promoting interoperability, may still be leveraging services from the HIEs which have grown in their jurisdiction. In eight of the states, public health employees use data in the HIEs as part of their work. Many of these HIEs are facilitating reporting from provider organizations to public health agencies (8 states) and conversely information flows from public health agencies back to clinicians (6 states). None of the states have what was deemed a mechanism for specifically regulating HIEs, although California has passed strong patient privacy protections in broader legislation which also apply to HIEs.

Indiana is a noteworthy case, in that the state's primary HIE (IHIE) is considered by its peers to be among the most mature and capable in the country,⁷ and IHIE provides many services to the state, despite the hands-off approach policy makers have taken. It is possible that in some instances states have chosen not to intervene in a market they deemed to be working well already.

Example states: California, Indiana, Mississippi, Ohio

Transitioning

Georgia, Minnesota, and South Carolina appear to be in the middle of a change in their approach to engaging and encouraging HIE capabilities. They were deemed to be *Transitioning* and not counted in a category of the framework. Two of the states would have been placed in the *Orchestrators* category a few years ago, but the number of regional HIEs is dwindling. While not necessarily true of these three states, there have been other instances where a state intentionally changed its approach as the result of a prior effort deemed not to have succeeded. These cases might be an interesting avenue for investigation, as failed efforts sometimes yield as many insights as successful ones.

⁷ The researchers did survey industry thought leaders to identify states with high performing HIEs, and although the process of picking thought leaders did not rigorously control for bias, Indiana and IHIE were among the top five most frequently listed states.

Preliminary Categorization & Summary Counts

The categorization of a state is a judgment call. And states evolve their approaches, potentially making a category change appropriate. The authors welcome feedback on this preliminary list, from the community and especially from those with firsthand knowledge of efforts within states.

Public-Private Utilities	Orchestrators	State Run Services	Private Sector Promoters	Transitioning
Alaska	California	Alabama	California	Idaho
Arizona	Colorado	Arkansas	Illinois	South Carolina
Connecticut	Kansas	Florida	Indiana	
Delaware	Massachusetts	Kentucky	Louisiana	
Georgia	New Jersey	North Carolina	Minnesota	
Hawaii	New York	North Dakota	Mississippi	
Iowa	Pennsylvania	Puerto Rico	Missouri	
Maine	Texas	South Dakota	New Hampshire	
Maryland		Wyoming	Ohio	
Michigan			Oregon	
Montana			Tennessee	
Nebraska			Washington	
Nevada				
New Mexico				
Oklahoma				
Rhode Island				
Utah				
Vermont				
Virginia				
Washington D.C.				
West Virginia				
Wisconsin				

Table 1 – Preliminary Categorization

Category Counts			
Public-Private Utilities	22 states	Legislation	17 states
		Executive order	5 states
Orchestrators	7 states	State agency coordinator	4 states
		Non-profit coordinator	3 states
State Run Services	9 states	Legislation	7 states
		Executive order	2 states
Private Sector Promoters	11 states	Multiple HIEs	8 states
		One primary HIE	2 states
		No recognized HIE	1 state
Transitioning	3 states		

Table 2 – Category Counts

How are states evolving?

In our research interviews we asked participants to describe changes to their state’s model over time. Several themes did emerge from responses and from other collected data. First, among states with more than one officially recognized HIE, consolidation is occurring and there are fewer total HIEs (e.g., New York). Some states which would have been considered *Orchestrators* in the past are now down to one primary organization and thus classified in the *Public-Private Utilities* category (e.g., Michigan).

A second apparent trend is that the COVID-19 pandemic has pushed states and their HIEs closer together. Nearly two-thirds of respondents (33 states) reported that the HIE receives data collected by public health authorities, and most of those mentioned immunizations and Covid case files. In some cases (6 states), Covid-related data was the only public health information mentioned as flowing to the HIE, suggesting that the pandemic was an impetus for the initiation of this strategy.

Conclusions

While there is no consensus approach for states to organize and promote health data interoperability, there are strategies which are shared among multiple states. Some states have seen success with careful planning and oversight by policy makers, or by just operating services within state government. Others have seen success with a hands-off approach, allowing market forces to dominate. Existing circumstances may inform which approach will best serve a particular jurisdiction. In states which have a mature HIE infrastructure, the capabilities are increasingly being leverage in support of public health purposes. The Covid pandemic has driven more engagement between public health agencies and HIEs, which appears likely to grow as national public health data modernization efforts are expanded.

Statewide HIE approaches do not exist in a vacuum; there is an active community of regional and statewide HIE organizations, convened by Civitas Networks for Health, previously known as the Strategic Health Information Exchange Collaborative (SHIEC). Further, Civitas Networks for Health’s membership now includes organizations known as Regional Health Improvement

Collaboratives following the formal affiliation/merger between SHIEC and the Network for Regional Healthcare Improvement, adding organizations focused on healthcare quality improvement and cost/affordability issues to the organization. Best practices, technology and solutions partners, and a unified federal advocacy and government relations approach are shared in the collaborative. The distribution and implementation of HIE models is likely affected by the exchange of information between these entities as well.