State Strategies to Advance Health Data Interoperability

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Introduction

To optimize health outcomes and control costs, it is critical that states, health care providers, and payers collect and share health care data. Many health information technology (HIT) systems have limited or no ability to share data across platforms due to a lack of data standards adoption and disconnected networks. This becomes a particularly difficult challenge to navigate when new opportunities or threats emerge requiring widespread information sharing, like the COVID-19 pandemic.

By increasing interoperability across systems for care delivery and coordination, public health, quality measurement and cost transparency, states, providers and payers can enhance sharing of health information and improve secure access to other data sources, such as those that contain information about social needs and risks impacting health outcomes, equity, and disparities. Making data available more quickly will allow for data-informed policy development, including improved emergency preparedness and response.

By leveraging a broad set of use cases (see examples in **Table 2: Examples of Data Sharing Use Cases)** states can appeal to a wide audience to galvanize electronic health information sharing. For new entrants and smaller providers, providing funding for shared technical services may help providers who would otherwise struggle with the cost of compliance. For instance, State Medicaid agencies can specify contracting requirements for managed care organizations (MCOs) requiring

and incentivizing health information exchange (HIE) adoption through collaboration and transparent approaches.

The goal of this paper is to share strategies governors and other state leaders can pursue to expand access to data and technology that will improve the health and wellbeing of our nation. Specifically, this paper highlights ways to enhance interoperability across health care payers and, across sectors. The paper includes a set of state considerations, examples from states that have leveraged policy opportunities, sample use cases, and financing strategies.

Considerations

1. Leverage policy opportunities to incentivize data sharing within the health sector. States have many programs within health and across sectors requiring data for care and service coordination, reporting, querying data sources, and reducing duplicative services, most of which can leverage shared platforms for information sharing.

o *Establish programmatic and reporting requirements for payers and providers that use HIT systems.* Policy examples include leveraging contracts, rules, or legislation requiring standardized data collection, interoperability, and governance. For specific examples of policy levers with state examples, see **Table 1: State Strategies to Advance Health Data Interoperability**.

o *Align state policies with federal rules to facilitate participation and compliance.* Federal agencies, including the Office of the National Coordinator in the Department of Health and Human Services, are requiring payers, hospitals and providers to demonstrate technical capabilities to advance interoperability among stakeholders and to increase patient access to health information, while reducing information blocking. By aligning state program requirements with federal standards, states can facilitate improved compliance and usability through advanced program interfaces (APIs) and timely data sharing. Below are examples of federal requirements with which states may consider aligning:

- **Patient access to health data:** Payers must share data with patients via APIs, coordinate data between payers using the United States Core Data for Interoperability (USCDI), per the Centers for Medicare & Medicaid Services (CMS) Interoperability Rule by January 2022.

- **Admission, Discharge and Transfer (ADT) Event Notifications:** CMS is requiring hospitals to send electronic notifications of a patient's admission, discharge, and/or transfer to another health care facility, community provider or practitioner to improve care coordination and follow-up care by April 30, 2021, as a condition of participation in the CMS Interoperability and Patient Access Rule.

- **Reporting Data Requirements for Public Health:** The Centers for Disease Control and Prevention **(**CDC) is requiring reporting of specific data elements, such as race and ethnicity for vaccine administration, test results, and case investigations.

▪ **Supporting Medicaid 1115 Demonstrations:** State Medicaid Agencies are <u>encouraged by CMS</u> to provide a plan to show how 1115 waiver demonstrations will use data and HIT to support delivery system reform and value-based payment models.

2. Maximize use of existing data networks to improve coordination and reduce redundant investments. Health care providers, community organizations, payers, public health organizations, and state agencies are each connected to information networks that support a range of policy goals. These connections are critical to avoid investing in systems that support sectoral silos or narrowly defined policy goals. By encouraging or facilitating connections between the networks, states can reduce the administrative and financial burden of requiring stakeholders to join new networks and increase reusability of information at the local, state, and national level.

o *Connect health and community-based organizations through health and social services networks using platforms to better address social determinants of health*. Sharing standardized social screening and assessment data across health and community organizations improves interventions, referral coordination and management and population health analytics. For example, **North Carolina's** NCCARE360 is a statewide coordinated care platform that electronically connects individuals to community resources and helps health and community-based organizations coordinate an individual's whole-person care.

o *Modernize public health infrastructure with bidirectional exchange of standardized data*. States can improve their response to the pandemic by leveraging existing networks across the state through available health information exchange networks to improve data availability, reliability and integration. By identifying and requiring data reporting through specific networks, states can streamline reporting, consolidate disparate data feeds and reduce administrative burden. For example, **North Dakota's** rural providers transitioned from paper-based COVID-19 data reporting to electronic reporting using the statewide HIE, NDHIN, for required public health reporting for lab reporting, syndromic surveillance, and immunization data through bidirectional queries to providers' electronic health records (EHRs).

o *Identify opportunities to connect to national and regional data sharing networks to address a broad set of policy goals*. By inventorying existing systems to assess how well they meet technical and policy goals, while also determining the feasibility of aligning data frameworks, states can avoid investing in parallel and redundant networks. States can leverage national health information networks to expand interoperability capabilities to address priority use cases (see **Table 2: Examples of Data Sharing Use Cases**) and under-connected health settings. National Health Information Networks, such as <u>eHealthExchange</u> and <u>CommonWell Health Alliance</u>, enable a national network of HIT developers, federal systems and health organizations using common data sharing agreements to access electronic health information for permitted use cases. Examples include treatment and care coordination, social security disability benefits determinations and encounter alerts. Participation in these networks enables state and regional HIEs to enhance longitudinal patient records and improve interoperability among health care

providers. Long-term care settings and behavioral health facilities often use EHR vendors that are part of the national network collaborations, which facilitates participation. However, broader adoption should be feasible with increased use of interoperability standards.

o ***Designate a health data public utility to provide common data services for statewide data needs:*** Health data utility models are increasingly popular state strategies to facilitate exchange of clinical information, improve disease surveillance, and reduce data reporting burdens. By designating a not-for-profit organization to operate a regulated network, states can make and enforce HIE policy decisions, the entity can serve the whole state, and the unified approach can reduce technical capability gaps and fragmented data. For example, **Maryland** designated the Chesapeake Regional Information System for our Patients (CRISP) to maintain the technical infrastructure for statewide, secure electronic information exchange as a result of legislative action. As another example, **Montana's** former Governor Steve Bullock, established Big Sky Care Connect as the state's designated HIE entity by executive order.

o ***Identify opportunities for interstate data exchange and infrastructure reuse:*** For states to advance HIE infrastructure, partnering with neighboring states could create efficiencies and increase information exchange across state lines. In recent months, multiple HIEs have announced mergers and alignments to consolidate operations and maximize technical investments and infrastructure. An example includes a recent merger of HIEs in **Nebraska** and **Iowa** creating regional technical services, share operational costs, and share technical infrastructure. This can create efficiencies while reducing the number of networks with which national payers, pharmacy chains, and others must contract to share information.

3. Maintain relevance and sustainability by diversifying funding and continuously evaluating how technological investments are meeting emerging policy objectives and stakeholders' needs. There are many ways to finance strategic planning, governance, technical architecture investments, technical functions and operational support, oversee and monitor interoperability. States have built reusable infrastructure to connect providers, hospitals, payers and state agencies from the American Recovery and Reinvestment Act Health Information Technology for Economic and Clinical Health Act (ARRA HITECH) grants to state investments and federal financial participation for HIT and HIE through parameters set forth in State Medicaid Director (SMD) Letter #11-004 and SMD Letter #10-016. Because technology advances quickly and programmatic requirements evolve, states must keep their technological investments up to date to stay relevant. In addition, by establishing formal advisory stakeholder groups, states can learn how to optimize participation by maximizing value for participants.

o ***Maximize public and private funding opportunities to meet data needs for all populations and user needs.*** There are multiple funding streams that can be used to enable health data sharing. **Table 3: Financing Models to Promote Health Information Interoperability** provides examples of mechanisms to support HIT investments from implementation through operations. States should consider strategies to diversify funding and ensure sustainability.

o *Monitor interoperability progress to ensure investments add value.* By continuously measuring and monitoring technical capabilities and adaptability, states can ensure that systems add value to users.

- **Seek Input from Stakeholders:** Public-private advisory councils can recommend interoperability standards to support state goals while facilitating and improving data informed care delivery. These stakeholders typically have broad representation across the health care industry, including state agencies, payers, providers, consumers and health information organizations. As examples, the public-private **Michigan** HIT Commission serves as an advisory body for advancing HIE in the state, and the **Maryland** HIE Policy Board advises the Maryland Health Care Commission staff on the policies regarding the privacy and security of protected health information exchanged through a health information exchanges operating in the state.

- **Costs and Return on Investment:** Costs and value of health information sharing platforms vary widely across the country due to geographic footprint, technical capabilities, systems sophistication and variety of data sources. States can prioritize expenses appropriately by conducting a systemic review of the total costs of technical investments, operating costs, total costs per population, and monitoring industry fees and rates for comparable investments. Below are three examples of criteria to consider:

- **Technology Maturity** – Assess the functionalities, quality and volume of data, data sources and ability to meet basic and advanced use cases.

- **Interoperability** – Consider whether an entity can perform basic transactions (send/receive, query & find, use & integration), data volume, quality, completeness, timeliness, use of data and interoperability standards, and agility for change.

- **Participation** – Evaluate rate of data network participation in the geographic service area, the diversity of partners in size, services offered and population served. For instance, in addition to hospitals and ambulatory care providers, do pharmacies, labs, and long-term care facilities participate?

Table 1: State Policy Levers to Advance Policy Priorities Through Data Sharing

Lever	Summary	State Examples
Supporting Health Systems Transformation and Improved Quality of Care	Ensure HIT investments help residents receive the highest quality care and services in the right place at the right time. State agencies may use their purchasing power to promote or require interoperability, as well asset expectations for managed care plans to support provider network connectivity to information exchange networks. These requirements can be required through a state's contract with a Medicaid managed care plan or through a plan's contracts with its providers.	**Florida -** Florida's MCO contract requires the MCO to enroll and participate in the Florida Health Information Exchange Event Notification Service as directed by the Agency. **Maryland -** Under Maryland state regulation, hospitals must connect to the state-designated HIE CRISP so the Health Services Cost Review Commission (HSCRC) can measure hospital performance on readmissions. **Michigan –** Michigan's Medicaid program issued rules and directives requiring its MCOs to create incentives for providers to use HIT and HIE services to improve care management and coordination and support program goals.
Addressing the Opioid Epidemic	Require use of the prescription drug monitoring program (PDMP) system to inform clinical decisions, enhance public health interventions, and improve detection of prescription fraud and diversion.	State Strategies to Improve the Use of Prescription Drug Monitoring Programs to Address Opioid and Other Substance Use Disorders is a toolkit developed by the NGA Center for Best Practices to highlight state practices in PDMP policy and identify opportunities to improve access and ease of use.

Lever	Summary	State Examples
Improving Population Health	Leverage HIT to improve population health by collecting, sharing and analyzing aggregate health data. For example, states can use aggregated data to create and implement intervention strategies targeting high risk patients to reduce risk of negative health events and improve outcomes. States can also support disease-specific registries, aggregating and integrating data to inform disease prevention programs. A population-based registry maintains data on everyone who lives in a certain jurisdiction, regardless of where they receive their treatment. Aggregating and integrating comprehensive population health data from multiple sources can support hospital, research and payer uses in addition to public health.	**New York -** New York's Department of Health maintains several population-based disease registries for both chronic and communicable disease. The registries related to chronic disease include the Cancer Registry, the Alzheimer's and Other Dementias Registry and the Congenital Malformations Registry. The Department also leverages the State Health Information Network for NY to measure diabetes and hypertension and work with healthcare providers to identify interventions. **Indiana** - Indiana Health Information Exchange manages Indiana's Network for Patient Care, an inter-organizational data repository providing integrated data informing health improvement programs, quality measurement, and reducing hospital readmissions.

Lever	Summary	State Examples
Identifying and Curbing Public Health Crises	Use available public health data reporting to identify early warning signs of new trends to inform response and policymaking. Collecting and reporting standardized data for COVID-19 can improve timeliness of testing information, quality of case investigation, efficient vaccine prioritization and distribution, and symptom surveillance. According to the CDC "[a]t the point of clinical care, an Immunization Information System (IIS) can provide consolidated immunization histories for use by a provider in determining appropriate client vaccinations. At the population level, an IIS provides aggregate data on vaccinations for use in surveillance and program operations, and in guiding public health action with the goals of improving vaccination rates and reducing vaccine-preventable disease. Also, according to the CDC "Syndromic surveillance data can serve as an early warning system for public health concerns such as flu outbreaks and have been used in responses for opioid overdoses, self-harm and motor vehicle injuries, e-cigarette or	**North Carolina** – The Division of Public Health requires all civilian North Carolina hospitals operating a 24/7 emergency department to contribute data for the state's statewide syndromic surveillance system, NC DETECT. **Pennsylvania** – Pennsylvania leaders called on the state's five HIEs to communicate COVID-specific data through a daily tracking report of aggregated COVID-19 test results by county and by ZIP code into a digital dashboard for Pennsylvania. Public health officials, hospitals, and state government use the dashboard to track COVID-19 results and hospital bed capacity in real-time. **Washington** – The Department of Health Immunization (DOH) Information System statewide immunization registry exchanges data with EHRs, OHRs, pharmacy systems and the State Health Information Exchange, OneHealthPort, to query patient records and report required vaccine administration data using specified technical standards. Syndromic surveillance and electronic lab report (ELR) data

Lever	Summary	State Examples
	vaping product use-associated lung injury, Zika virus infection, and natural disasters."	come to DOH via OneHealthPort and inform the state's COVID-19 Data Dashboards. DOH has also partnered with the University of Washington to adopt a smartphone based Bluetooth Exposure Notification System (WA Notify), which is a privacy-preserving technology jointly developed by Google and Apple that works without collecting or revealing any location or personal data. WA Notify launched in 30 languages to allow as many Washington residents as possible to access the tool and has more than 1.84 million users as of March 12. When people add WA Notify to their smartphones, they are notified if they spent time near another WA Notify user who later tests positive for COVID-19.
Addressing Racial Disparities and Health Inequity	Support advisory groups and inform recommendations using data collection and measurement to assess impact of policy changes. Leverage data to identify systemic inequities and opportunities through cross-sector collaboration and data sharing.	**Massachusetts** maintains a Race and Hispanic Ethnicity Health Equity Dashboard that provides information about health outcomes and is intended to help explain how different factors are linked with disparities in health to identify opportunities for intervention. The National Governors Association Center for Best Practices, in partnership with the Duke

Lever	Summary	State Examples
		Margolis Center for Health Policy, released [A Case Study of the **Michigan** Coronavirus Task Force on Racial Disparities](#) highlighting how Michigan leveraged its data dashboard to collect and report data on COVID-related racial disparities and progress toward reducing them.
Improving Care Coordination through Event Notifications	Align Medicaid systems and contractual requirements with CMS Interoperability Rule requirements for alerts and notifications of adverse events, such as emergency room or hospital admissions, to improve care coordination and communication across organizations and care teams.	[**Massachusetts**](#) – The Executive Office for Health and Human Services developed a statewide event notification service (ENS) framework to collect and share ADT feeds to providers across the state through a network of vendors. The Statewide ENS Framework helps hospitals maintain compliance with CMS [regulatory requirements](#) for hospitals to send ADT notifications to care teams.

Table 2: Examples of Data Sharing Use Cases

Purpose	Interoperability Use Case	Definition
Treatment & Care Coordination	ADT notifications	Provides subscribers timely notice of patients' events, such as emergency room visits or hospital admissions and discharge.
	Direct messaging	Allows health care organizations to securely exchange health information between individual providers over the internet.
	Longitudinal patient record	Provides a longitudinal view of the patient's health history and care provided by aggregating health information from multiple data sources.
	Automated results delivery	Sends lab, imaging or other results to ordering providers to improve timely delivery and clinical decision making while reducing duplicative testing.
	ePrescribing	Sends prescription orders electronically from prescriber to pharmacy systems for dispensing while sharing a patient's prescription plan, prescriptions, prescription history, and approved formularies.
	PDMP query	Query the PDMP to improve clinical decision making when considering prescribing a controlled substance by accessing all schedule II-IV filled prescriptions with medication, prescriber and frequency information.
Public Health Reporting	Immunization information system	Tracks who receives a vaccine, who administers the vaccine, the setting of vaccine administration and overall counts of administered vaccinations with ability to meet capacity demands through a bi-directional vaccine administration data reporting systems.
	Electronic lab reporting	Enhance testing capacity, resulting, electronic reporting, and analytics for diagnostic, serologic, and emerging testing for required reportable conditions. Building capacity to report to state public health departments directly or through intermediaries, such as HIEs, enabling notification to the ordering and care team providers, as well as public health authorities.

Purpose	Interoperability Use Case	Definition
Public Health Reporting *(continued)*	Electronic case reporting	Establish or enhance the ability to electronically report additional health information supporting epidemiological case investigation.
	Syndromic surveillance	Establish or enhance capacity for submitting symptom, ADT, and other data elements to public health authorities for influenza-like symptoms to support ongoing monitoring and early warning of potential increase in emergency room visits, urgent care visits, and symptoms presenting at nursing homes.
	Contact tracing	Enable technical systems to support epidemiological case investigations to identify cases, contact infected or potentially infected individuals and implement appropriate containment measures. By capturing additional social data elements, contact tracers can connect individuals to support systems while quarantining.
	Proximity tracing and exposure notification	Using Bluetooth or GPS technologies, voluntary smartphone applications with opt-in tools can estimate the proximity and duration of an individual's exposure to patients diagnosed with COVID-19.
	Vital statistics reporting	Improve vital statistics electronic data reporting for birth and death information supporting morbidity and mortality surveillance with electronic vital records systems, interoperability of data, and improved workflow.
	Hospital surge and supply capacity reporting	Report and analyze hospital surge capacity, bed availability, ICU bed availability, supplies, and workforce capacity. Understand opportunities to develop real time data transmission reducing reporting burdens and reusing available data.
Social Needs Infrastructure	Screenings, assessments, and diagnosis	Record patients' responses to a questionnaire identifying social needs and supporting provide diagnosis for additional services.

Purpose	Interoperability Use Case	Definition
Social Needs Infrastructure *(continued)*	Referral network and management (eReferral closed loop)	Send referrals across health care providers to community organizations and track referral outcomes (i.e., close the loop).
	Resource directory	Allows users to locate community-based organizations and agencies providing services that can help address patients' social needs.
	Case management	Provides ability for longitudinal needs and care tracking, defining care goals and viewing referrals, services and other activities.
	Population health aggregation and analytics for risk stratification, interventions	Aggregate data into a repository of normalized and integrated data pertaining to individual patients. This data can then be made available for analysis to interested stakeholders, either by exporting the consolidated, deidentified records for all applicable patients or by providing analytical software to process the data directly on the data repository.
Health Transformation and Value-based Payment (VBP) Model Quality and Financial Measurement	Reporting performance measures (process, quality, outcome, financial)	Measure reporting for process, quality of care and outcomes metrics using clinical information (e.g., patient data, lab results, vital signs and symptoms) for analysis and comparison across health providers.
	Analytics	Perform predictive and retrospective analysis of standardized, evidence-based measures to measure and track clinical performance, quality of care, and monitor progress over time.
	Utilization measurement	Measure utilization of health care service delivery, such as visits, ED utilization and hospital readmissions.
	Financial models, analytics, cost containment	Calculate and analyze aggregate information to inform financial models, develop and implement strategies for payment reform and inform cost containment proposals. May use integrated data from multiple data sources to make data-informed decisions. May also be used for evaluation of programs.

Table 3: Financing Models to Promote Health Information Interoperability

Funding Model	Summary
HITECH 90-10 Federal Financial Participation (FFP)	Federal administrative funding is available for some state interoperability activities through the Medicaid EHR Incentive Program through 2021 and may be requested through an Implementation Advanced Planning Document. This program makes federal administrative funding available at a 90% match rate, with the state funding the remaining 10% for eligible design, development, and implementation activities. Other Medicaid funds are available at lower matching rates. Per SMD Letter #18-005, Medicaid Enterprise Systems funding is available at a 75% federal match rate for implemented, certified HIE services measured with outcomes-based certification measures and cost allocated for Medicaid beneficiaries.
Medicaid Waivers	States can use 1115 and 1915 Medicaid waivers to require Medicaid managed care organizations and providers to use data and technology as a condition of participation and payment.
Braiding State and Federal Funding Sources	States can develop a broad, multi-agency HIT strategy identifying priority data needs to support human services, public health, emergency preparedness and response, and others. Each state agency has different budget and federal funding streams through direct sources, cooperative agreements, and grants. By coordinating efforts and maximizing the use of federal matching funds, states can reuse data streams and interoperability infrastructure to meet multiple priority data needs.
Payer Financing	Payers can establish interoperability requirements, such as use of specified technical services or use of networks to reduce duplicative reporting as a part of provider contracts.

Funding Model	Summary
Public-Private Funding/ State HIT Fund	States can facilitate payment for shared technical investments among HIEs, health providers, and payers. This may include common technical services, such as public health reporting, directory services, or centralized event notification services. An HIT Fund can be supported by revenue collected through a tax paid by insurers on each private health insurance claim. The state can require participation in an Interoperability State HIT Fund for specific services or allow private contributions for common technical services.
Post-HITECH Incentive Program	The state can create its own incentive program with federal matching funds to support adoption, implementation, use and advancement of health IT data systems, including HIE, for health or service providers with unmet technology and data sharing needs (e.g., behavioral health providers, post-acute care, rural providers). The match is capped at the state Federal Medical Assistance Percentage rate and can be authorized in legislation or through a Medicaid State Plan Amendment update. For example, a state may provide incentive funds (e.g., $5,000 per provider) for providers who make technology investments and meet specific milestones.
Subscription/Transaction Model	In the transaction model, costs are charged or passed on to the HIE participants in the form of subscription to HIE services or per data transaction. Transactions fees can be per patient, per search, per visit, or per result.

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