
The Evolving Role of the State Chief Data Officer

A FRAMEWORK FOR TODAY

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Since 2010, states have been establishing Chief Data Officer roles. Colorado was the first to create the role, followed by New York, Illinois, and Connecticut. Currently there are approximately 28 state CDOs whose roles often differ from state to state. While cities were the pioneers with New York City establishing the first city CDO role in 2010, the role has also grown at the federal level and is now required for each federal cabinet agency with the passage of the Foundations for Evidence Based Policy Act in 2019. Separately, state governments have a unique role from a data, policy, and service delivery perspective. States often carry out large federal programs, and state policy has a direct impact on local governments. This makes the job of a state CDO unique with respect to city or federal CDOs.

The COVID-19 pandemic highlights the unique role that state data plays in keeping the public informed and keeping ahead of the crisis. On a daily basis, governors report on new data related to COVID-19 cases, hospital caseload and weekly jobless claims. The pandemic is also showing the importance of integrating data sets across agencies and programs. For instance, to ensure that families who are losing access to free and reduced price meals can continue receiving important nutritional resources, the [Pandemic EBT program](#) needs to integrate data across education and social services.

How are state CDO roles created and their roles defined?

In states, CDO roles are created through executive orders, legislation, or administratively. (*Administratively* means that the state is creating a position using existing authority or mandates.) As the role has grown, states often draw inspiration from other states or cities, tailoring executive orders or legislation for CDO roles to their specific needs or goals.

Although states realize they have much to gain from establishing a CDO and improving their use of data, the only guideposts they have had until now are actions taken by other governments. Further, policymakers and other leaders in states may not have a full understanding of the lifecycle of data and what type of talent and infrastructure are necessary to put it to its highest and best use. As a result, their CDO role may not be defined in a way that actually helps state leadership achieve their goals for using data, or their goals may be better served by other means.

In this nascent stage of the CDO role, if the position is not well defined, the CDO's portfolio may become too large, diminishing their ability to be effective. For instance, requiring a CDO to oversee the security of the state's data may detract from their ability to focus on issues like open data or data analytics. Instead, a CDO should be focused on managing data as a strategic asset and putting it to its highest and best use.

Why focus on data?

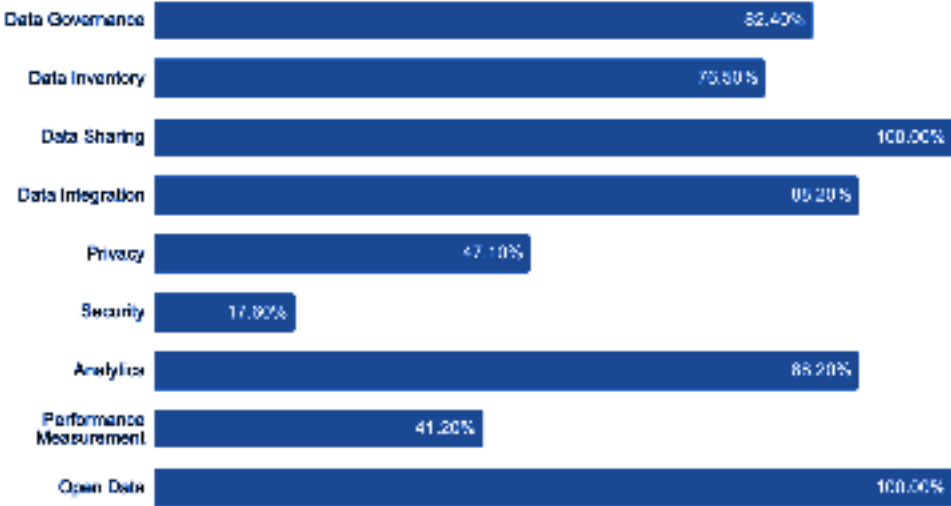
There are two questions that are commonly asked about Chief Data Officers: What makes a CDO different from a Chief Information Officer (CIO), and why do we need someone to focus specifically on data? First, information and data are different things, take different forms, and are managed differently. Information moves through an organization person to person, in physical documents, and over phone lines, cable lines, ethernet, WiFi, cellular, and myriad other vehicles. Information consists of phone conversations, emails, videos, pictures, and documents. Data are the building blocks of information. Data are raw facts made of numbers and text, that once processed create information.

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While we move and transmit data using many of the same vehicles used for information, they are very different things. Just like airplanes transport people, luggage, and cargo, we transport, store, and use both data and information with the same tools. Ideally, the information created from data generates knowledge which informs action. Thus, the core difference between a CDO and a CIO is that a CDO should be enabling the creation of new information that allows decision makers to take action. CIOs therefore, are responsible for ensuring the safe, secure, and reliable delivery of that information. This requires a CDO to be engaged throughout the entire lifecycle of data use - from data creation to action. Doing so enables a feedback loop for continuous improvement in the management and use of data.

In order to generate new information from data, it must be managed, used, and transmitted in ways that respect its unique characteristics. In a survey of existing state CDOs, 100% of them indicated that they currently have responsibility for open data and data sharing, followed by analytics and data integration (88%), data governance (82%), and data inventories (76%). Privacy, security, and performance measurement are currently responsibilities of less than 50% of state CDOs.

State CDO Responsibilities



These results track well with the concept of transforming data into new information. Data inventories enable organizations to understand the resources they have and how they might be used or related to one another. Data governance ensures that data are of high quality and accessed and used in responsible ways. Both of these are foundational aspects of data sharing and integration by making it easier to understand what data sources exist and how they relate to each other. Data governance, by improving data quality and fitness of data, ensures more time can be spent using data than accessing and preparing it. Open data extends beyond transparency by providing easy, open, and self-service access to datasets for which there are no legal restrictions to data sharing. This enables both government employees and the public access to data in simple ways, enabling opportunities for new insights and analysis.

The challenge that state CDOs face, due in large part to the diversity of programs and services that states administer, is that they cannot possibly be experts in all aspects of government. Thus, in order to effectively generate not only new, but useful, information, they must work closely with partners across agencies who are

subject-matter experts in their respective fields. Data, and the information it generates, must provide value to the mission of the subject-matter experts. This idea was reinforced by a state CDO, who said “You have to lead with value.” Further, the efforts necessary to enable this, such as data governance, must also be valuable to their efforts.

Delivering the right data to the right people at the right time

If CDOs are to lead with value but can’t have the depth of subject-matter expertise across the broad array of issues states deal with, how best can they deliver on the promise of data? Colorado CDO Jon Gottesegen sums up the role of a CDO as “...delivering the right data, to the right people, at the right time.” Noteworthy about this philosophy is that this approach is not solely limited to analytics. This extends to delivering data on an operational level to subject matter experts.

For instance, this could involve delivering data to a child welfare case worker on whether a child is involved in the justice system. While the idea that “delivering the right data, to the right people, at the right time” seems to have universal appeal, the reality in state government is that not everyone wants “their” data delivered to others. Additionally, there are numerous laws and regulations that rightfully prevent others from accessing certain data — even others within the same government agency or office. However, the majority of these laws recognize the inherent value in leveraging data and allowing it to be used for very specific purposes. Thus, beyond possessing a technical knowledge of data, CDOs must be able to grasp its relevance to public policy and service delivery. Legally protected data is generally only allowed to be used to generate a better understanding of the effectiveness of a public program, or to enhance the administration of a program. CDOs therefore need to understand the interrelated nature of programs and services.

Pairing data with policy goals for better outcomes

Existing state CDOs appear to understand the important relationship that data plays to critical public policy and service delivery issues. During the first-ever gathering of state CDOs in November 2019, the Beeck Center team worked with them to identify

a series of pressing policy issues in their states. We then challenged them to identify ways they could leverage data to impact those issues. The CDOs identified dozens of ways they could better leverage data for issues like workforce development, combating opioids, improving child welfare, and housing. Many of these uses were immediately actionable, while others were more challenging but achievable with the support of the State CDO Network.

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However, some states are focused purely on the technical aspects of data. One recent state CDO job posting sought to decrease the costs associated with data storage — a laudable goal, but not exactly addressing states' biggest problems. Collectively, states spent approximately \$51 billion¹ on IT in 2018 representing 3.8% of the overall state spending². While states should be identifying ways to reduce redundant costs, only a portion of IT costs are related to the collection, storage, management, or use of data — meaning, far less than 3% of state spending. To contrast that, states spent a similar amount, 3% overall and 6.6% of their general fund, on incarceration corrections in 2018. Over that time, state and local government incarcerated 1,953,202 adults³ at an average cost of \$35,252 per person. If all states leveraged data, for instance to reduce recidivism, and were able to decrease the prison population by just one percent, the collective savings would be approximately \$689 million. Beyond the cost savings, there are the broader economic benefits through the additional earnings and spending of over 19,000 potential new workers. Thus, there exists significantly more potential for not only cost savings, but improved societal outcomes if state CDOs are focused on putting data to use for public policy or service delivery, rather than reducing costs directly associated with the technical systems that capture and store data.

¹ "Here's How State Governments Spend Their IT Budgets," Government Technology. October 18, 2019.

<https://www.govtech.com/biz/Heres-How-State-Governments-Spend-Their-IT-Budgets.html>

² "2019 State Expenditure Report - Fiscal Years 2017-2019," National Association of State Budget Officers. November 2019.

<https://www.nasbo.org/reports-data/state-expenditure-report>

³ "States of Incarceration," Prison Policy Initiative. June, 2018.

https://www.prisonpolicy.org/global/appendix_2018.html

Data needs a captain

As states have matured in their use of data, their approach often remains fragmented, inefficient, and unpredictable. In 2018, the Pew Charitable Trusts examined [how states use data to inform decisions](#). The report identified a series of strategic actions states can implement to advance their use of data:

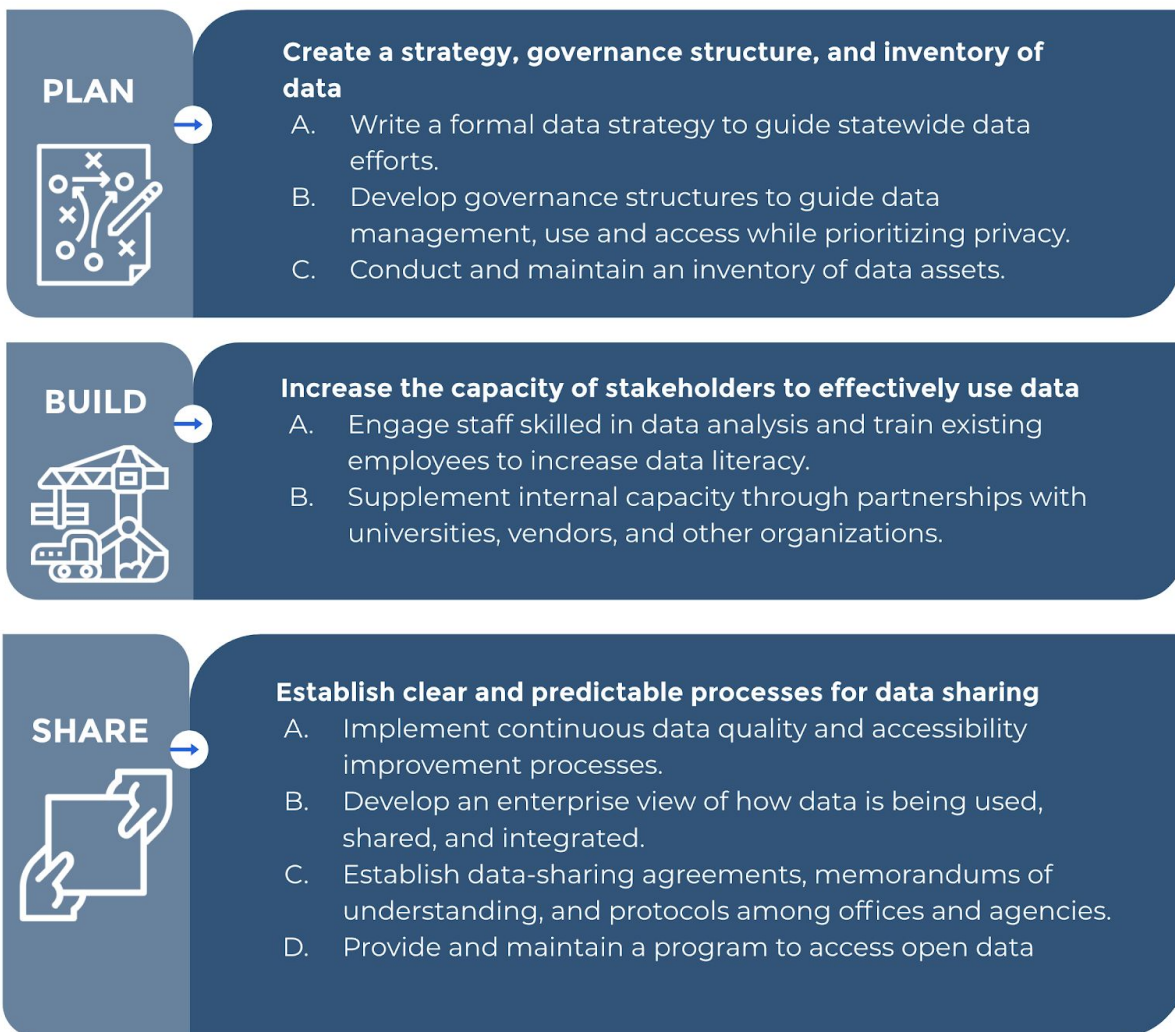
- Plan ahead by setting up guiding goals and structures.
- Build the capacity of stakeholders to effectively use data.
- Ensure that quality data can be accessed and used by stakeholders.
- Analyze data to create meaningful information.
- Sustain support for continued data efforts.

Missing from these actions is the designation of a leader to coordinate and facilitate the use of data on a statewide basis. Results for America published a [State Standard of Excellence](#) that identifies “Data Leadership” as a critical component for states in advancing their use of data and evidence. According to Results for America, “A designated chief data officer can create a coherent set of policies, structures, and guidance for how state agencies should routinely use data to improve programs.”

The Pew report outlines actions states can take to improve their use of data, however not all of them can be advanced by a state CDO alone. In particular, efforts to secure funding or sustain efforts long term require executive or legislative action. Still, many of Pew’s recommendations form a core foundation for a state CDO's responsibilities.

Core responsibilities for today's state CDOs

Based on our learnings from state CDOs over the past six months, the State Chief Data Officers Network defines the core responsibilities of what a state CDO role should encompass. As the role is always evolving, so too will the details related to CDOs' responsibilities. But this basic framework can serve as a consistent guide to help state CDOs approach their work, no matter the maturity of their state's policy, technology, or cross-functional landscape.





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To aid states in establishing a sustainable Chief Data Officer role we have compiled examples of legislative language that can be leveraged to support states in their efforts to craft an effective CDO role, and implement the core functions that should be led by a CDO. The initial release of [State Data Policy Option Guidelines](#) focuses on establishing a state CDO and creating clear and predictable data sharing and integration processes. The guidelines will grow over time to address other aspects of this framework as we learn from states and uncover best practices.

The role of a CDO has changed considerably over the past 10 years and this framework is today's best summation of the principles, practices, and responsibilities to set state CDOs up for success. The State CDO Network will continue to reevaluate this framework as the landscape changes.