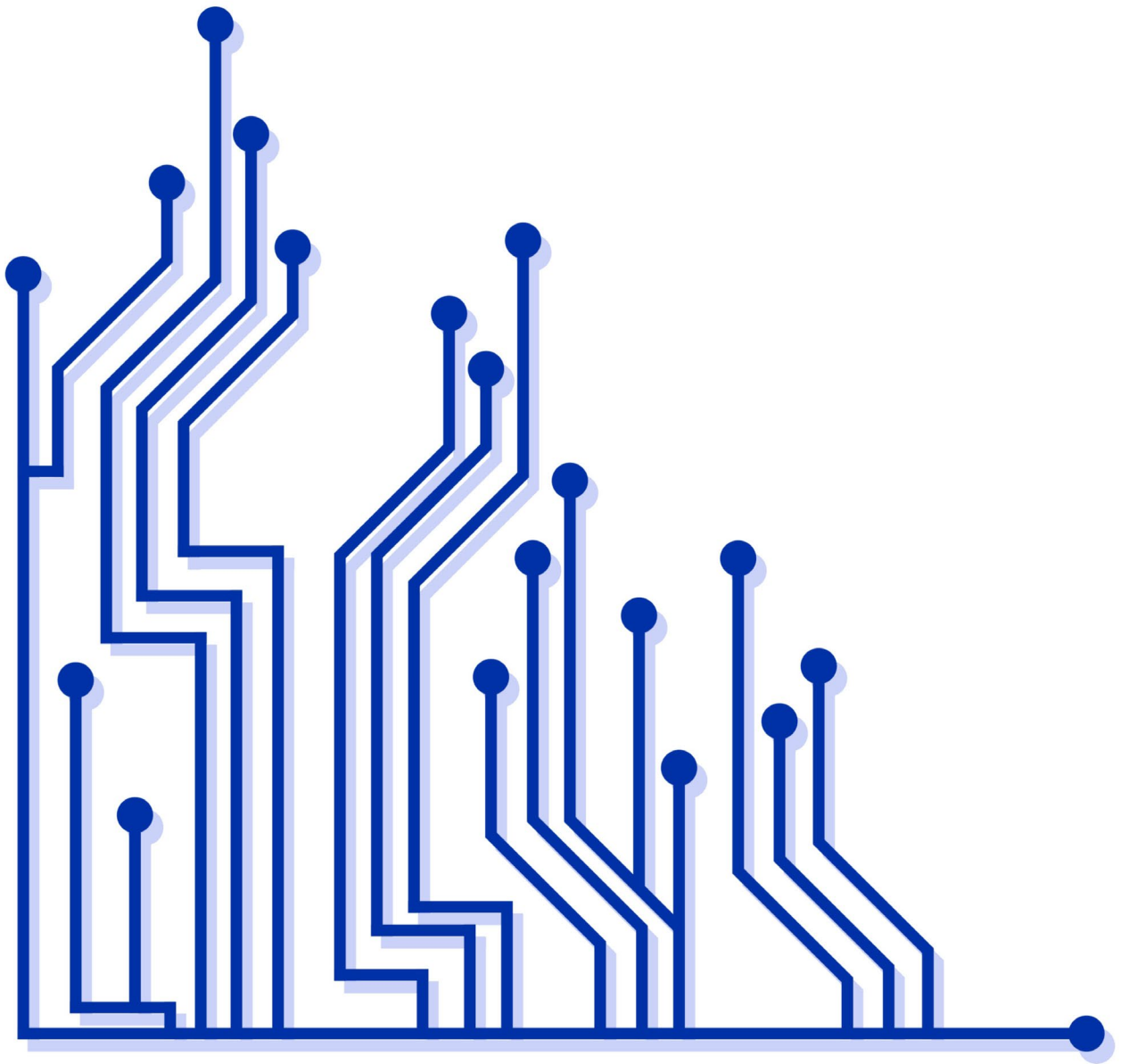# Five Years of Progress and the Road Ahead

Insights from the 2024 Survey of Federal Chief Data Officers

DATA FOUNDATION

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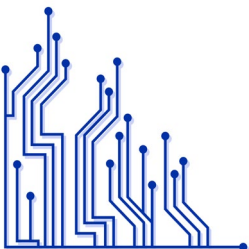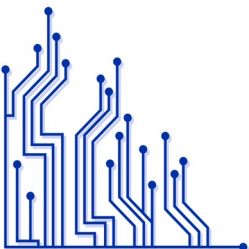
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Executive Summary

Responsible data governance is crucial to ensure data is managed and used appropriately. The Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act) established a framework to leverage data as a strategic asset of the U.S. federal government to support federal agencies' collection, management, and use of data to guide effective policy decisions. In the five years since the passage of the Evidence Act, agencies across the federal enterprise have tasked Chief Data Officers, or CDOs, to develop data strategies, open data plans, and data inventories, along with various other responsibilities.

The Data Foundation's fifth annual survey of federal Chief Data Officers, conducted in collaboration with Deloitte, includes department-, agency-, and bureau-level Chief Data Officers and Statistical Officials, and collects information on a wide range of topics. The 2024 CDO Survey reveals a maturing CDO function across the federal government, with evolving priorities and confidence in the CDO roles, alongside growing concern with limited capacity and a lack of guidance.

Key findings from the 2024 Federal CDO Survey include:

- **CDOs' priorities are evolving as they make progress in achieving their missions.** CDOs report high success rates in achieving their missions and widespread adoption and usefulness of data strategies. In 2024, CDOs reported a wider range in mission priorities compared to previous years.

- **CDOs are building data maturity and successfully implementing their missions despite declining clarity in the CDO role.** CDOs reported increased confidence in achieving their mission as well as increased data maturity across their organizations. Interestingly, despite clear progress and growing data maturity, CDOs reported declining clarity in responsibilities of the role and almost half of CDOs cite conflicting statutory or legal authorities – an increase of almost 15% from 2023.

- **CDOs' roles and responsibilities in relation to other data and innovation roles in the federal government remain unclear.** Though a majority of CDOs find the CDO and Chief Information Officer (CIO) missions highly complementary, the reporting structure is viewed less favorably and the perceived benefit is declining. Similarly, half of CDOs see missions of Chief Artificial Intelligence Officers (CAIOs) as highly complementary to their own, though some CDOs point to potential redundancy in data and AI responsibilities.
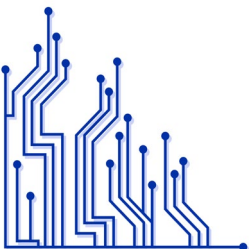
- **CDOs face persistent challenges and need more support from organizational leadership.** Consistently, CDOs report financial and budgetary as a key challenge, and each year CDOs cite a need for staff and technology. Organizational leadership can help alleviate capacity challenges for CDOs by allocating budgets and staff support; however, one-third of CDOs point to leadership resistance among the top barriers for becoming a data-driven organization and for the CDO community broadly.

- **CDOs signal a need for more coordinated data governance across the federal enterprise.** CDOs report challenges related to a federated and siloed approach to data governance across the federal government. While the CDO Council can help with knowledge sharing and networking opportunities for the CDO community, 60% of CDOs stated a need for further guidance from the White House Office of Management and Budget (OMB) to implement key Evidence Act provisions, while 72% report that an updated Federal Data Strategy implementation plan would help them achieve their missions.

- **CDOs are looking for more clarity on CDO responsibilities and expectations related to AI.** Almost three-quarters of CDOs reported involvement in the development of their organization's AI Strategy, and 90% of CDOs already use AI and are planning for AI next year. However, 43% of CDOs report lack of guidance related to AI as a primary barrier to using AI in their organizations.

Based on the findings from the 2024 survey of federal CDOs, the Data Foundation offers the following recommendations:

1. **Clarify roles and responsibilities of CDOs.** OMB should issue guidance on implementing the OPEN Government Data Act, Title II of the Evidence Act, to provide more clarity related to federal CDOs' responsibilities and roles, particularly in relation to other data and information officials.

2. **Support data readiness for AI implementation.** OMB, in coordination with the Federal CDO Council, should develop guidelines for data preparation and management for AI activities. Further, the CDO Council should encourage CDO collaboration and develop shared resources to promote AI leading practices across the CDO community. To provide CDOs with specific guidelines related to their organizations, department and agency leaders should develop a framework for CDO involvement in the organization's AI strategy development and implementation.

3. **Strengthen leadership support for CDOs.** The Federal CDO Council can consider developing templates and talking points to help CDOs communicate value to leadership, bolstering CDOs' efforts to advocate for resources within their organizations and build stronger relationships with leaders across their organizations. The Council should prioritize a coordinated approach to communicating the value of the CDO role for advancing CDO organizational priorities.

4. **Evaluate opportunities to enhance or update the Federal Data Strategy through coordinated approaches to information sharing and standardization across agencies.** An updated release of the Action Plan in coordination with the CDO Council could support CDOs with implementation of the Federal Data Strategy across agencies. By offering high-level, government-wide strategy, OMB leadership could more effectively coordinate implementation of the Evidence Act.

Federal CDOs have made tremendous progress in the five years since the passage of the Evidence Act. As agencies increasingly rely on data-driven decision-making to benefit the American people and businesses, the strategic vision and leadership of CDOs will be instrumental in navigating complex challenges, fostering innovation, and ensuring responsible data use. By addressing the persistent barriers facing CDOs — including those identified in the 2024 Federal CDO Survey — and identifying the opportunities for successes, the federal government can be better positioned to continue to better use data to become more efficient, more transparent, and improve outcomes.

Introduction

High-quality, reliable data is integral to decision-making across sectors, informing budget allocation, designing and managing programs, laying the foundation for technological innovations, and much more. Responsible data governance is crucial to ensure data is managed and used appropriately. The Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act) established a framework to leverage data as a strategic asset of the U.S. federal government to support federal agencies' collection, management, and use of data to guide effective policy decisions.[1]

Title II of the Evidence Act, the OPEN Government Data Act, required the 24 Chief Financial Officers (CFO) Act agencies to designate Chief Data Officers to oversee the governance and management of federal data assets. In the five years since the passage of the Evidence Act, agencies across the federal enterprise have tasked Chief Data Officers, or CDOs, to develop data strategies, open data plans, and data inventories, along with various other responsibilities.

Since 2020, the Data Foundation surveyed federal CDOs, documenting the evolving role of CDOs to support understanding of the CDO community's progress and needs. This is the fifth iteration of the Data Foundation's Federal CDO Survey.[2, 3, 4, 5]

The Data Foundation's annual survey includes department-, agency-, and bureau-level Chief Data Officers and Statistical Officials,* and collects information on a wide range of topics, including organizational structure, resources, professional experience, CDO missions, collaboration and engagement practices, and CDO community guidance. The survey also includes specific questions to address emerging topics; for example, the 2023 introduced a new section to understand how CDOs are thinking about artificial intelligence (AI), which remains in the 2024 survey.

The 2024 Survey of Federal Chief Data Officers, in collaboration with Deloitte, provides insight into the tenure of the CDO role five years after the CDO position was formally established for federal agencies.

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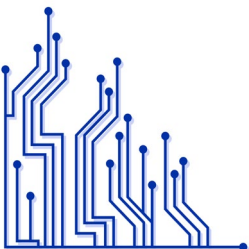
* Title II of the Evidence Act delegates the CDO functions to Statistical Officials (SO) at 44 USC 3520(d). CDOs and SOs with delegated CDO functions are referred to collectively as CDOs in this report. Responses from CDOs and SOs were combined for this analysis. See the Appendix for more detail on survey methodology and analysis.

Survey Results

Certain findings from the 2024 CDO Survey are consistent with prior years. Individuals in CDO roles have vast experience in the federal government and are central to building organizational data culture. But CDOs continue to face challenges related to funding, authority of CDOs, and limited guidance on implementing the Evidence Act. The 2024 CDO Survey reveals a maturing CDO function across the federal government, with evolving priorities and confidence in their roles, alongside growing concern with limited capacity and a lack of guidance.
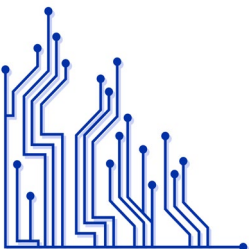
Achieving the CDO mission

The Evidence Act is a primary driver behind the CDO role across federal organizations, with a majority of CDOs reporting that their organization established its CDO role in the years since the passage of the law. While certain federal entities had a CDO role prior to the Evidence Act, 64% of CDOs reported that their organization created a CDO position within the last five years. Almost half of CDOs (47%) have been in their current roles for three to five years, though 52% of CDOs report having held a CDO role in an organization outside of their current organization. Though CDOs' experience in CDO roles outside of their current organizations points to high turnover in the CDO role, the high rates of prior experience also indicates individuals in CDO roles have deep expertise with data management and governance. Further, CDOs are dedicated long-term federal employees; similar to all prior surveys, almost 80% of CDOs reported they worked for the federal government for over 10 years.

Placement and reporting structure of CDO offices was not outlined in the Evidence Act and remains varied across the federal government.[6] Approximately one-third (36%) of CDOs report to Chief Information Officers (CIOs), reflecting a similar finding from previous years and remaining the most common reporting position for CDOs since the role was established. However, 24% of CDOs report to positions equivalent to a Chief Operating Officer, and 40% of CDOs indicated reporting to "other" positions specific to their organizations.

CDO mission priorities are evolving

While organizational placement is varied, CDOs share mission priorities and are seeing broad success with building data maturity across their organizations.

The 2024 CDO Survey shows mission priorities of CDOs are evolving. In 2023, 85% of respondents selected developing and implementing data strategy or governance as one of the top three areas of highest priority to achieving the CDO mission. While developing and implementing data strategy or governance remains within many CDOs' (57%) top three mission priorities, it is no longer the most cited priority among CDOs, signaling a shift in priorities. Improving data infrastructure emerged as the most frequently cited of CDOs' top priorities (70%) in 2024, up from 59% of CDOs including infrastructure among their top three priorities in 2023. The shift in CDOs' top mission priorities may be due to the progress CDOs are making in achieving their missions.

Figure 1. **Mission Priorities of Federal CDOs**

Select the top three areas of the highest priority to achieving your CDO mission.
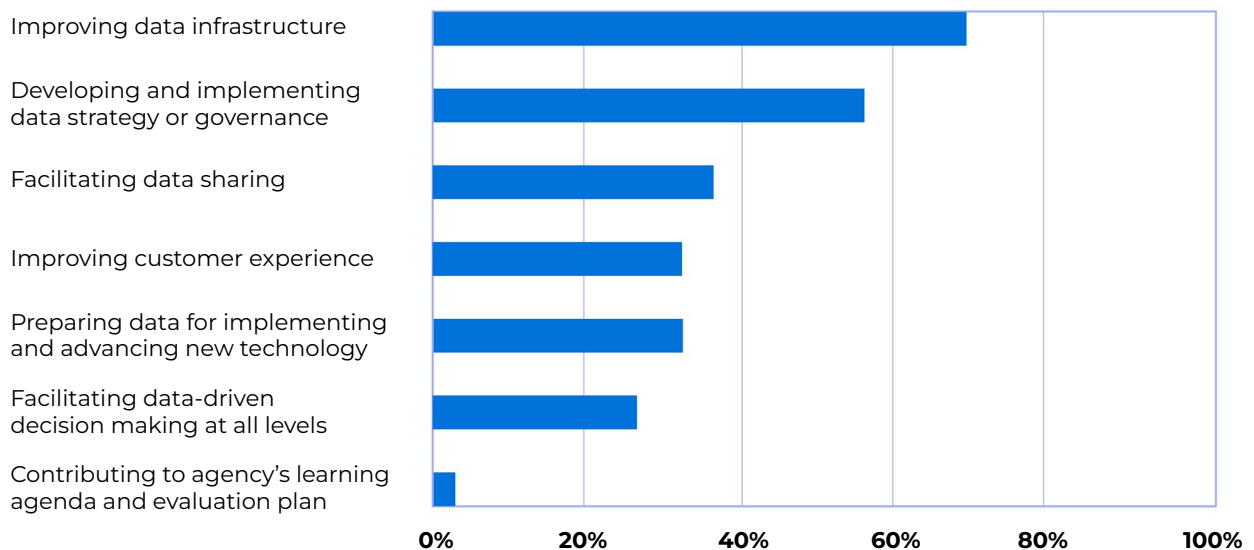
CDOs demonstrate success in achieving mission

In 2024, CDOs reported high levels of success in fulfilling their CDO missions, and signaled increasing data maturity across their organizations.

The 2024 CDO Survey shows CDOs have increasing confidence in mission success. When asked to what degree the CDO position and CDO office has been successful in achieving its CDO mission, 83% of CDOs said they have been at least "somewhat" successful in achieving their missions – of which, 52% reported they have been "very" or "completely" successful in achieving their missions. In 2023, 81% of CDOs reported they were at least "somewhat" successful, of which, slightly less than half of CDOs reported being "very" or "completely" successful.

When asked to describe a key impact or success from the past year, CDOs frequently pointed to publishing or updating a data strategy or open data plan as well as developing or expanding data governance boards or supportive data governance positions. The 2024 CDO Survey further emphasizes CDOs' success in the creation of their own organizational data strategies, with 92% of CDOs reporting their organization has a data strategy. Asked to what extent their data strategy supported the development and success of the CDO mission, 58% of CDOs said "a lot" or "completely" – with 96% saying their data strategy was at least "somewhat" helpful. However, less than one-third (30%) of CDOs with data strategies reported that their data strategies are machine-readable – another provision of the Evidence Act to support open data and transparency in government.

As noted, in 2023, developing and implementing data strategy or governance was selected as one of the top three priorities of CDO, and activities described by CDOs as their biggest impact over the past year demonstrates clear progress in achieving that priority.

CDOs are building data-mature organizations

CDOs remain central to building organizational data culture. Sixty-seven percent of CDOs reported they influence their organization's data culture "a lot" or "completely" – a similar finding to prior surveys. Building a robust data culture within an organization is one aspect of supporting more efficient and effective use of data for decision-making, or data maturity.[7] In 2024, CDOs reported higher confidence in the data maturity of their organizations than previous years. When asked to assess their organization's data maturity, in 2024, 36% of CDOs reported having "very" or "completely" data mature organizations, up from 11% of CDOs that reported having "very" or "completely" data mature organizations in 2023.

To better understand how CDOs are approaching data maturity, the 2024 CDO Survey included a new question asking CDOs about strategies that CDOs see as integral to advancing their organization's data maturity. CDOs employ a variety of strategies to advance their organizations' data maturity.

Figure 2. **CDOs Employ a Variety of Strategies to Build Data Maturity**

*What strategies have been integral to advance your organization's data maturity?*
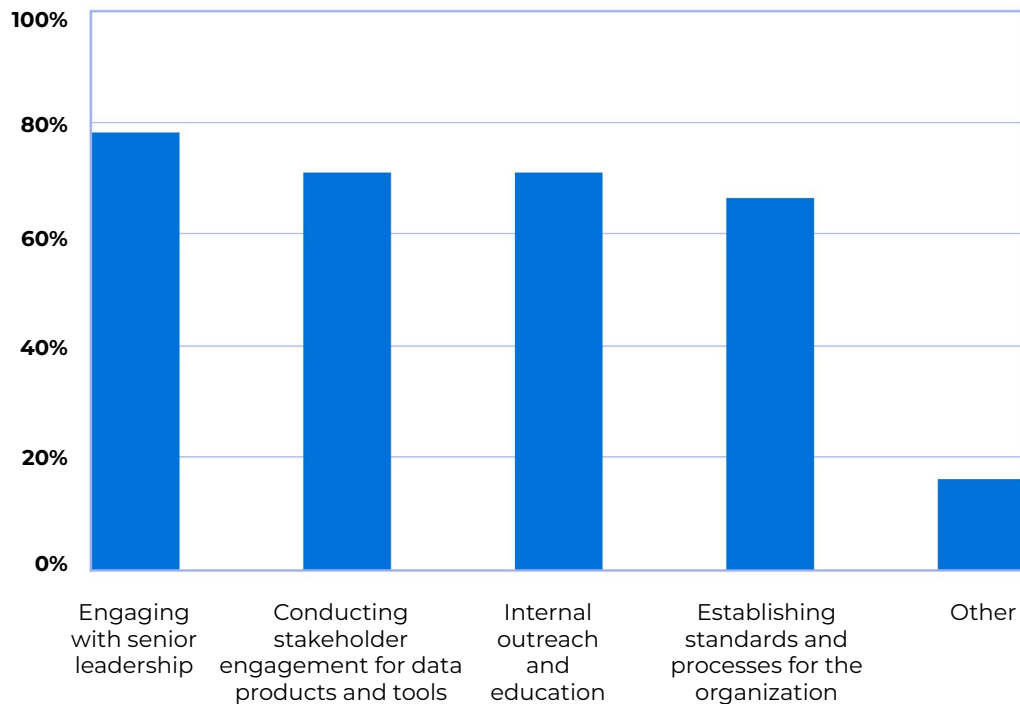
CDOs frequently collaborate across government functions

Similar to prior years, the 2024 CDO Survey found CDOs collaborate often across their organizations' functions. CDOs regularly collaborate with C-Suite leadership, with 63% of CDOs reporting interacting weekly with C-Suite leadership. CDOs also collaborated frequently with their organization's AI leadership, with 53% collaborating weekly, as well as policy officials, with 30% of CDOs working with policy officials weekly. The 2022 and 2023 CDO Surveys also found frequent collaboration across agency functions.

Less frequently, however, is how often CDOs interact with other officials established by the Evidence Act: Statistical Officials and Evaluation Officers. While half of CDOs report collaborating with Evaluation Officers or Statistical Officials at least monthly, one-third of CDOs and Statistical Officials do not collaborate at all.

Figure 3. **CDOs Collaborate Internally Across Functions**

How often do you collaborate with others in your organization?
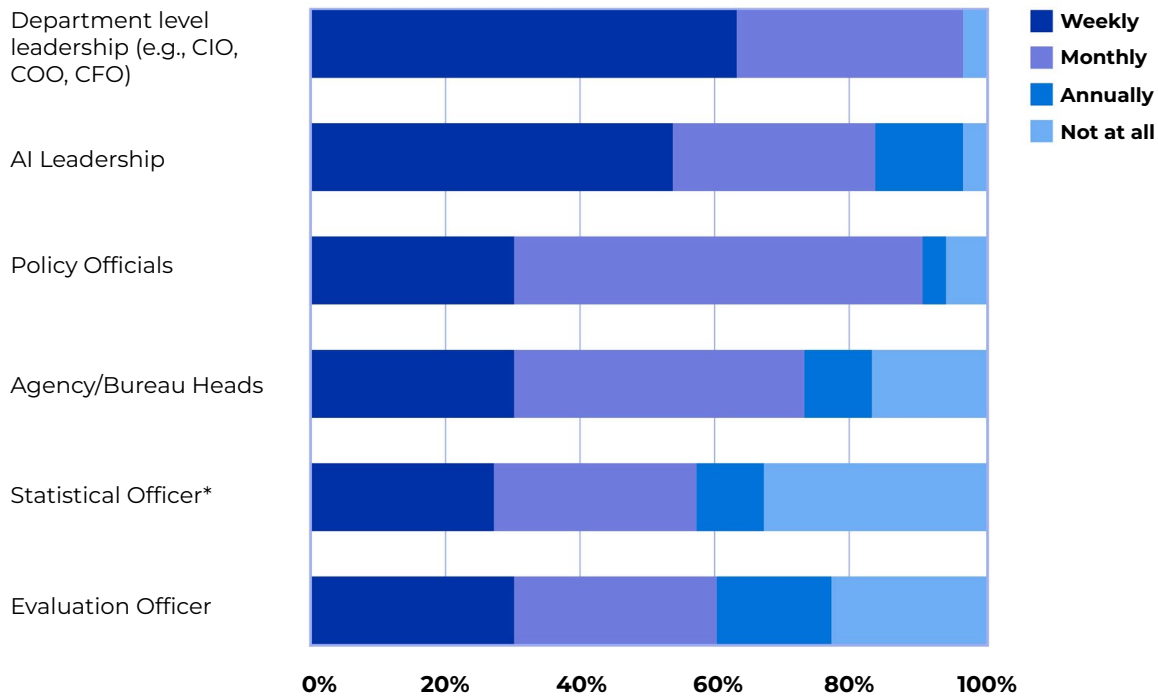
CDOs also provided insight into engagement with external stakeholders, including Congress, Executive Branch leadership, other federal agencies, state and local governments, the private sector, and the general public. CDOs reported very limited interaction with Congress, with most engagement occurring annually or not at all, and state and local governments, either interacting annually or not at all. However, CDOs reported engaging frequently with other federal agencies and the private sector.

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* Survey respondents that are SOs were asked about collaboration with their Department-level CDOs. The Statistical Official bar represents combined answers from both SOs and CDOs.

Figure 4. **CDOs Interact Occasionally with External Stakeholders**

How often do the following external stakeholders interact with your CDO office?
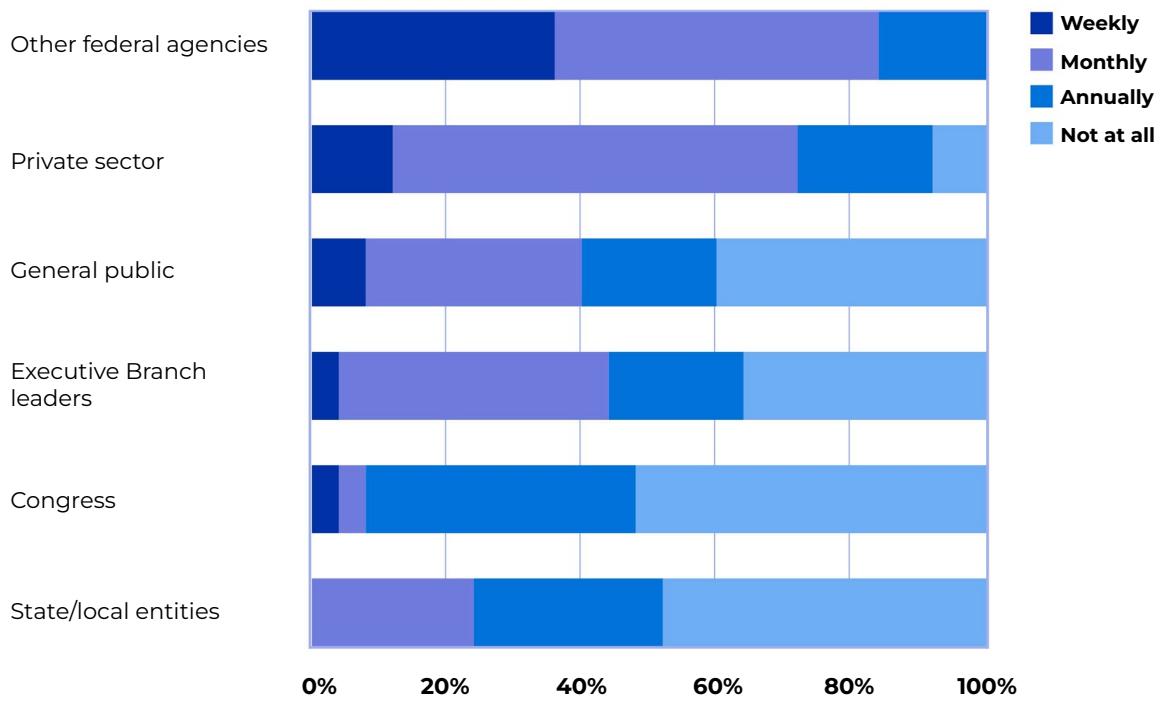
Effective stakeholder engagement can help to ensure user needs are met and improve partnerships between and among organizations.[8] To help to understand how CDOs are approaching engagement with their stakeholder groups, the 2024 CDO Survey asked CDOs which stakeholder engagement practices have been successful to encourage active participation with the CDO Office and use of the organization's data assets. CDOs reported employing a variety of approaches. Facilitating a community of practice, including through open meetings, workshops, and training, and designating assistant or deputy CDOs, as well as promoting use of the organization's data assets, including through publishing metadata and documentation, use cases, dashboards, and APIs, are among the most cited strategies. Increasing awareness of the organization's data assets through communications strategies such as publishing data strategies, reports, and newsletters, and receiving public feedback through websites and requests for information are also frequently used by CDOs. Facilitating a community of practice, promoting resources, and publishing open data products were also strategies employed by CDOs in 2023.

Organizational relationships are growing more complex

Though one-third of CDOs report to the CIO of their organization and work closely with CIOs to achieve their missions, the relationship between CDOs and CIOs is complex. While CDOs overwhelmingly view the CDO role as complementary to the CIO role – with 52% of CDOs finding the CIO mission as "very" or "completely" complementary to the CDO mission, and 80% finding the roles at least "somewhat" complementary – the reporting structure is viewed less favorably.

Figure 5. **Benefit of CDO-CIO Reporting Structure is in Decline**

Do you consider the CDO reporting to the CIO beneficial or challenging, in relation to other reporting structures?
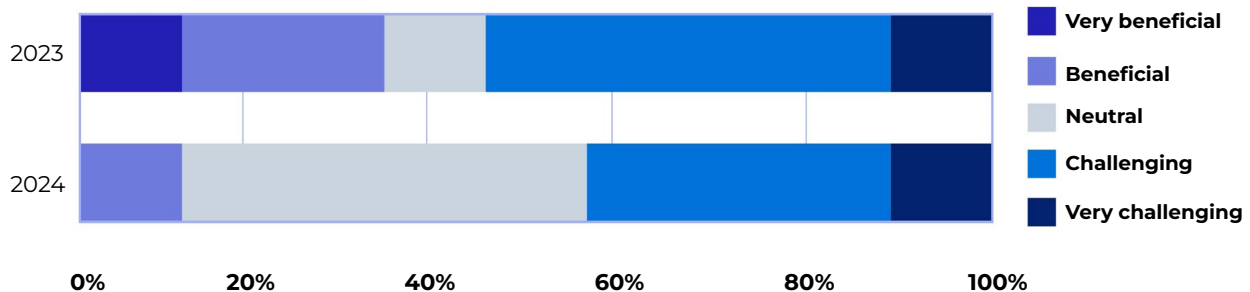
The marked decline in favorability of CDOs reporting to CIOs may be due to the evolving maturity of the CDO function in government and a lack of clarity related to data responsibilities. When asked where CDOs need more support, some CDOs cited the delineation of the CDO and CIO roles. Further, when asked for examples of conflicting statutory or legal authorities that create challenges for effectively implementing the CDO mission, CDOs pointed to the overlap of CDO and CIO responsibilities. For example, CDOs noted certain provisions in the Evidence Act "delegate CIO responsibilities to CDOs in a manner that is unhelpful," and that there is an "overlap of CDO and CIO roles."

CDOs experience capacity limitations and cite varied needs

Enabling sufficient resources – financial or otherwise – remains a challenge for responding CDOs. When asked if they have the resources needed to achieve their CDO mission, 34% of CDOs reported having "not at all" or "a little" of the resources necessary.

Figure 6. **CDOs Need More Resources to Achieve CDO Mission**

Do you have the resources necessary to achieve your CDO mission?
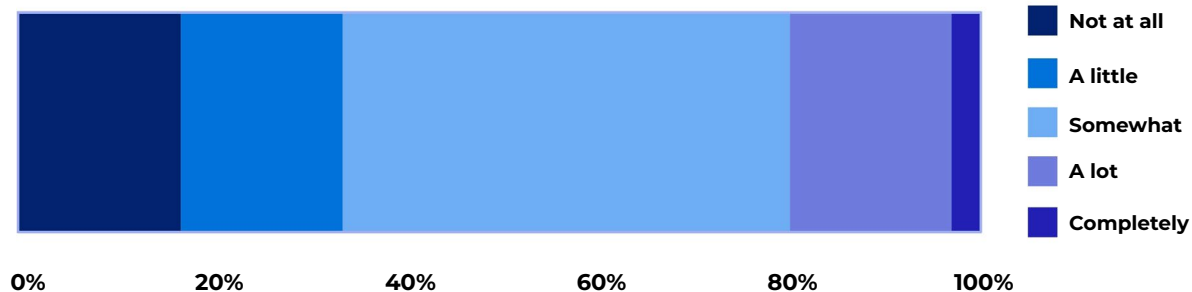
A majority (68%) of CDO offices reported having less than 10 full time equivalents (FTE) supporting their work, with only 12% of CDOs reporting having more than 25 FTEs. Each of the Data Foundation's previous CDO surveys found a majority of CDOs having less than 10 FTEs as well. Further, almost half (47%) of CDOs hold positions in addition to the role of CDO, including as division directors or other senior-level positions. Thirteen percent of CDOs reported serving as their organization's lead for AI. CDOs functioning as dual-hatted data leaders with limited staff support further indicates CDOs face capacity challenges, particularly for fulfilling statutory responsibilities defined for the CDO.

Almost half (44%) of CDOs reported they needed funding or staffing when asked what areas they need more resourcing and support – however, there is much variation across resourcing needs of CDOs. Technology and shared services (19%) and governance support (17%) were also frequently reported by CDOs as areas in which more resources are needed. While financial, staff, and technology support were areas of concern seen in previous years, the 2024 CDO Survey reveals an emerging concern with governance support for the CDO community.

CDOs still lack clarity in responsibilities

The tenure of the CDO role has not led to more clarity of CDO responsibilities. Only 26% of CDOs reported "very" or "completely" clear responsibilities – with a majority (63%) reporting having "somewhat" clear responsibilities. In 2023, 33% of CDOs reported "very" or "completely" clear responsibilities, down from 52% in 2022. Declining clarity in the CDO role each year may be influenced by the reported overlap of CDO and CIO responsibilities, the emergence of AI responsibilities, and continued lack of guidance from the White House Office of Management and Budget (OMB) related to implementation of the OPEN Government Data Act discussed below.

Despite the growing challenges with clarity in the CDO role, the survey suggests most CDOs perceive success in achieving their missions. In the face of resource constraints and growing complexities, CDOs have demonstrated an ability to provide a foundation for data management and use in their organizations – and may need more support as they move forward to further enhance the function of the CDO office.

Strengthening the CDO community

The Federal CDO Council and OMB are two of the primary entities that provide leadership and guidance to the CDO community. Established by Title II of the Evidence Act along with CDOs, the Federal CDO Council has a purview to coordinate the CDO community, share best practices, promote data sharing, improve the production of evidence, identify new technology solutions, and engage with diverse stakeholder groups.[9] OMB was tasked by the Evidence Act to provide implementation guidance, including for Title II.

CDO Council serves as key coordinating body

The Federal CDO Council offers a coordination and collaboration mechanism for CDOs. CDOs largely find the resources and activities of the CDO Council helpful for achieving their mission.

Figure 7. **CDOs Find the CDO Council Helpful in Achieving CDO Mission**

To what extent has the federal CDO Council helped you achieve your CDO mission over the past year?

Legend: Not at all, A little, Somewhat, A lot, Completely

0%   20%   40%   60%   80%   100%
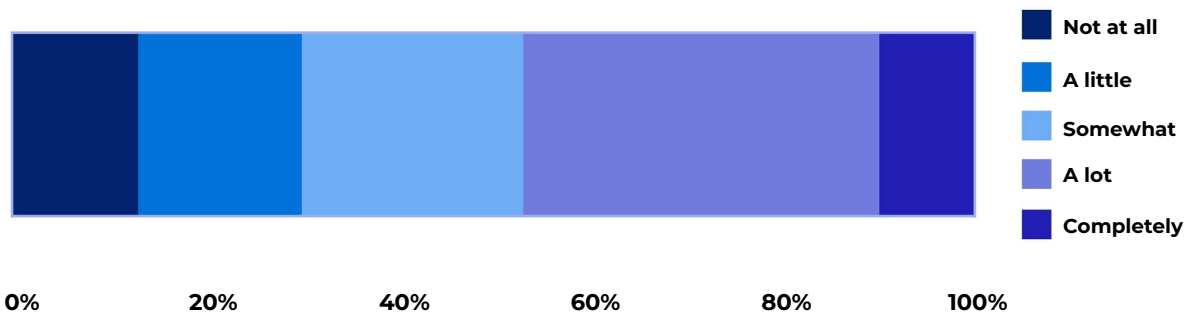
When asked what types of resources, guidance, or support is needed from the CDO Council, CDOs cited activities to support knowledge sharing, including playbooks, model documents, or case studies; networking, including retreats and meetings; and cross-agency guidance related to data sharing and AI, for example. One CDO summarized a key frustration that the CDO Council can help alleviate, noting the "need to stop recreating the wheel within each agency;" the continued support from the CDO Council serves a key role to promote shared tools, templates, and collaboration mechanisms. In 2023, CDOs largely reported the same areas that the CDO Council can support, indicating interest in shared best practices and network-building efforts.

CDOs also reported that resources and conversations facilitated by the CDO Council help CDOs in broader data discussions across their organizations, though templates or talking points to communicate value to organizational leadership would be useful. Certain CDOs noted difficulties finding time to engage with the CDO Council and take advantage of the resources the Council offers – another indication of CDOs' capacity constraints.

CDOs continue to call for OMB guidance

While CDOs call for cross-agency guidance from the CDO Council, CDOs most often point to outstanding guidance from the OMB as an area of concern.

The Evidence Act directs OMB to provide implementation guidance to support provisions in the OPEN Government Data Act outlining CDO responsibilities and requires data assets to be open by default. Five years following the passage of the Evidence Act, Title II guidance has yet to be released – a delay CDOs emphasized in each of the Data Foundation's CDO Survey since 2020. In 2024, only one-third of CDOs said they have enough guidance from OMB to be successful in their role, and 60% of CDOs reported they do not have adequate guidance from OMB to implement the OPEN Government Data Act. When asked what additional guidance would be helpful to CDOs to be successful in their missions, many CDOs (67%) reiterated the need for OMB guidance on CDO authorities.

Further, 48% of CDOs reported there were conflicting statutory or legal authorities that create challenges for CDOs to effectively implement their mission – a shift from 26% of CDOs reporting there were conflicting authorities in 2023. When asked for examples, many CDOs pointed to topics related to open data. For example, CDOs reported a conflict between open data requirements from the Evidence Act and guidance related to cybersecurity and zero trust architecture. One CDO also noted particular characteristics about their data that makes an "open data mindset almost impossible." Guidance on implementing the OPEN Government Data Act can help clarify issues such as these for CDOs.

One CDO noted the lack of implementation authority and lack of detail in OMB guidance can limit its usefulness. Need for more specific, authoritative support is reflected by the 40% of CDOs that also reported that guidance from their own agency or department heads related to the CDO role specific to their organization would be helpful in supporting their mission.

Figure 8. **CDOs Need More Guidance to Achieve CDO Mission**

What additional guidance would be helpful for you to be successful in your CDO mission?
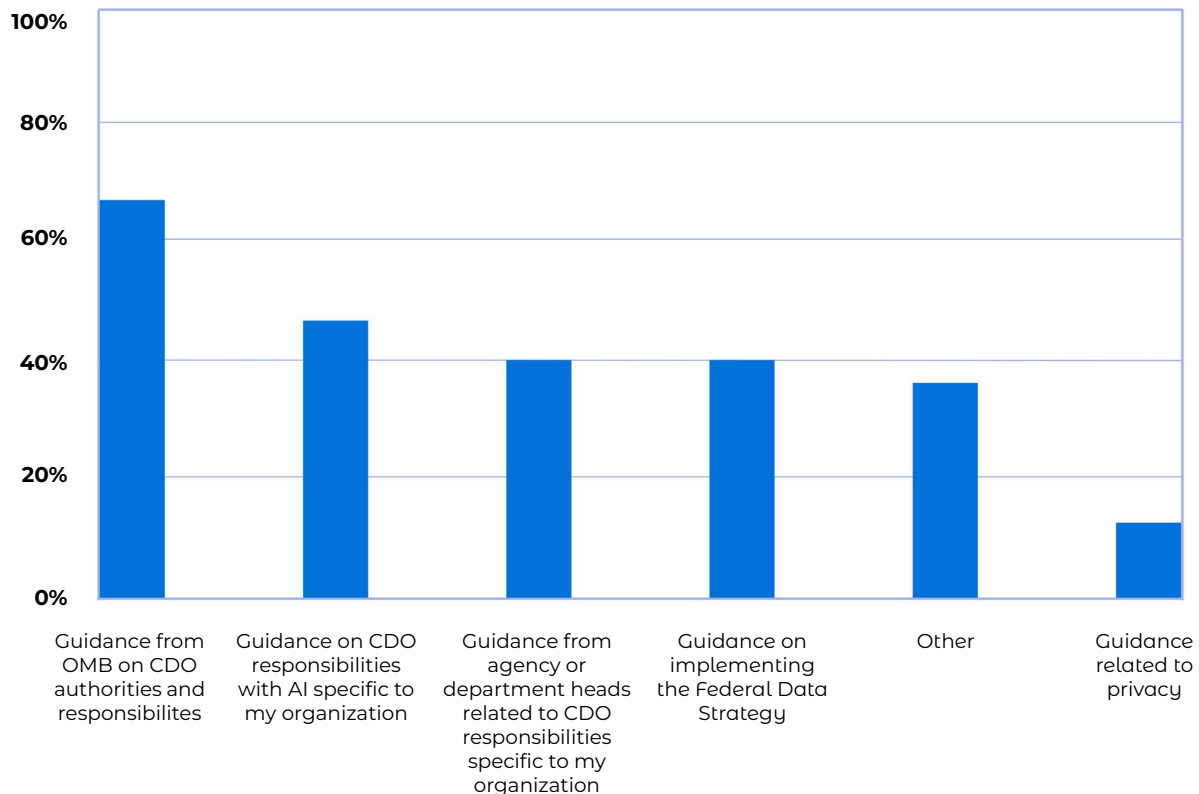
CDOs would benefit from updated Federal Data Strategy

OMB is also responsible for coordinating a government-wide Federal Data Strategy (FDS) – a 10-year plan to improve data use in the Executive Branch.[10] In 2019, OMB published the FDS, and subsequently released action plans to help agencies implement the FDS in 2020 and 2021.[11, 12]

The Data Foundation's 2021 and 2022 CDO Surveys found agencies were making progress in completing priority actions from the FDS Action Plans, with agencies implementing certain actions related to identifying data assets and creating inventories – but facing the most challenges with actions related to maturing data governance and publishing open data plans. In the absence of a 2022 or 2023 FDS Action Plan, Data Foundation's 2023 CDO Survey did not explore the implementation of the FDS. However, in 2024, when asked how helpful an updated Action Plan to implement the FDS would be to the CDO mission, over half (52%) of CDOs said it would be "a lot" or "completely" helpful – and 72% of CDOs would find an updated plan at least "somewhat" helpful.

# Persistent challenges to the success of the CDO community

In addition to community guidance, CDOs continue to face consistent challenges as they work to implement the Evidence Act and achieve their missions. Unsurprisingly, the challenges reported by CDOs to using data for decision-making in their organizations and the challenges CDOs perceived as the most significant for the success of the CDO community as a whole are similar.

As seen across all five of Data Foundation's Federal CDO Surveys, CDOs cite financial and budgetary constraints as the primary limitation to become a data-informed organization (84%) – as well as to the success of the broader CDO community (88%). The lack of authority of the CDO office to implement improvements or address barriers is another significant challenge cited by CDOs to becoming a data-informed organization (68%) and for the success of the CDO community (72%).

Interestingly, in 2024, leadership resistance emerged among the most selected barriers to CDOs' building data-driven organizations (36%) and to the success of the CDO community (36%). In 2023, leadership resistance was not among the CDOs top three perceived barriers. In 2024, one CDO articulated there is a "lack of awareness of potential value and benefits of the CDO role to organizations" – rather than a lack of awareness of the value of data – and the challenges CDOs face with leadership support may relate to this issue. One opportunity to mitigate this growing challenge for CDOs is for the CDO Council to provide materials to support the CDOs' efforts to advocate for more resources, as reported above.

Figure 9. Resources, Authority, and Leadership are CDOs' Top Challenges

Select the top three barriers you face.
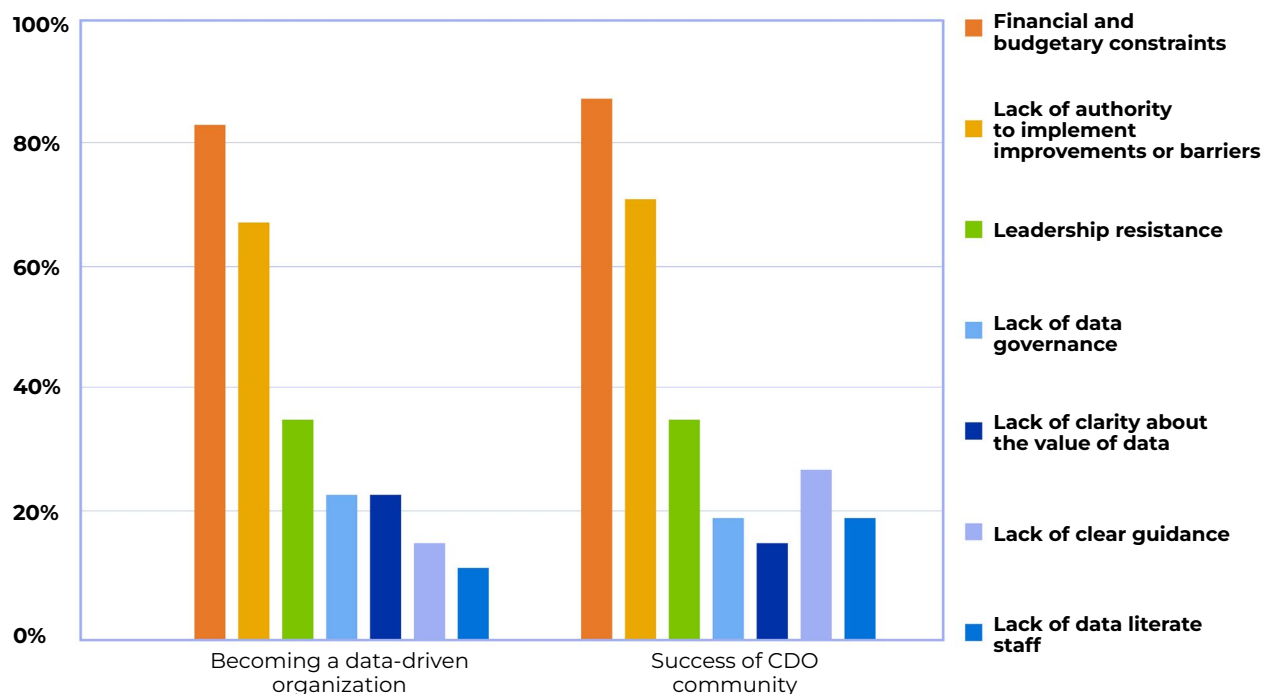
In 2023, financial and budgetary constraints and lack of authority were also included among the most often cited top three barriers faced by CDOs, in addition to a lack of data literate staff. In 2024, lack of data literate staff was not as frequently cited among the top three barriers for CDOs, indicating that while CDOs may still need more FTEs, they are making progress with hiring skilled staff to support their offices.

Further, a lack of data governance beyond the purview of the CDO office was often cited by CDOs as a barrier to becoming a data-informed organization. While only 24% of CDOs selected lack of data governance as among the top three barriers they faced to become a data-informed organization – many CDOs expanded on this challenge, writing in descriptions of a need for data governance support *beyond* their office or organization. CDOs cited challenges related to enterprise data governance and government-wide data governance, including that the federal system is "too federated" and "too siloed," with one CDO calling out the lack of government-wide data standards across core domains of government.

Five years after the establishment of the CDO role, CDOs have developed strong data strategies, taken steps to build a strong community, and outlined clear priorities to further facilitate data-driven decision-making. In the face of evolving data needs from the American public and rapidly emerging technological capabilities, CDOs are well positioned to share lessons learned and inform a responsible approach to innovation in government. However, the 2024 CDO Survey indicates a broader, whole-of-government view of data governance may be necessary – especially as the world advances further into the age of AI.

Data readiness for AI and the role of CDOs

In October 2023, the Biden Administration released the *Executive Order the Safe, Secure, and Trustworthy Develop and Use of AI*. OMB then published an implementation memorandum, designating Chief AI Officials (CAIOs) and requiring development of AI Strategies, along with a multitude of requirements related to developing and deploying responsible AI technologies across the federal government.[13, 14] While federal agencies began exploring AI before the 2023 Executive Order, federal development and use of AI tools has increasingly become a focus for agencies.

While the new CAIO role will mature and oversee governance of AI in the federal government going forward, data is a core component of developing, deploying, and using AI tools.[15] The 2023 and 2024 CDO Surveys aimed to understand the role of the Chief Data Officers in emerging federal approaches to advance AI technologies.

Both the 2023 and 2024 CDO Surveys show that CDOs have a central role in advancing innovative technology in their organizations. In 2024, one-third of CDOs reported that preparing data for innovative technologies was among the top three of their mission priorities, and 13% of CDOs reported also holding the role of AI Official. However, the amount of CDOs also holding an AI role decreased in 2024 from 19% of CDOs holding AI roles in 2023 – likely pointing to progress in hiring official CAIOs across agencies.

When asked how complementary CDOs view the CAIO role to achieving the CDO mission, half of CDOs found the relationship "very" or "completely" complementary, with 77% of CDOs viewing the relationship as at least "somewhat' complementary. CDOs also noted they were often involved in the development of their organization's AI Strategy. Similar to 2023, in 2024, 40% of CDOs were "a lot" or "completely" involved in development of the organization's AI Strategy. While only 7% of CDOs noted their office was not involved at all, almost one-quarter of CDOs said their organizations did not yet have an AI Strategy.

Figure 10. **Many CDOs are Involved in AI Strategy**
To what extent was your CDO Office involved in developing your organization's AI Strategy?
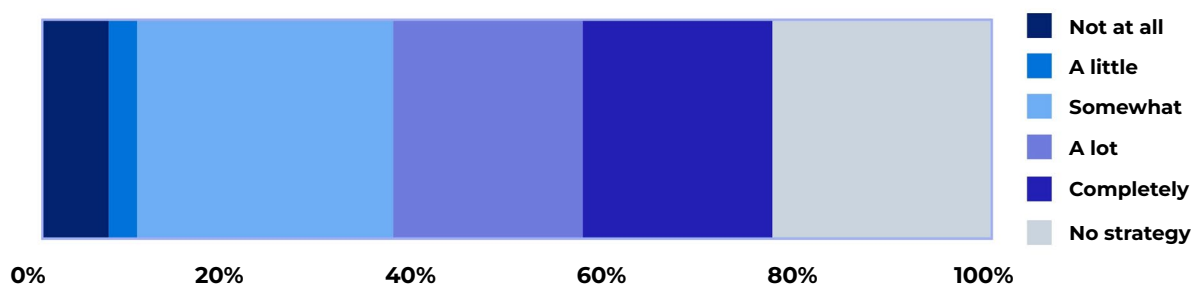
CDOs continue to report advances in implementing AI in their organizations; 90% of CDOs reporting they are using AI to some extent and plan to continue advancing their organization's use of innovative technology. Over the next year, CDOs report they are planning to adopt a variety of AI technologies, including enhancements to make data more accessible and useful (73%), new technologies such as generative AI (67%), basic AI such as machine learning models (60%), and AI infrastructure advances (50%), among others.

Despite CDO involvement with AI advancement, AI was another notable area where CDOs need more clarity and guidance. Emerging AI responsibilities also created examples of conflicting statutory or legal authority, with one CDO noting the lack of clarity between responsibilities related to responsible AI and data "leads to redundancies and confusion." When asked what guidance would help them be more successful in their role, 47% of CDOs reported they need more guidance on CDO responsibilities related to AI. Reiterating this finding, when asked what specific challenges they face to using AI in their organizations, 43% of CDOs pointed to lack of guidance.

Beyond guidance, CDOs noted financial and budgetary constraints (67%) and lack of data literate staff (43%) among the top challenges they face when implementing innovative technology such as AI. Further stressing the funding and staff capacity of CDOs is the amount of time it takes to develop AI, including the time it takes to curate training data and complete necessary testing to ensure responsible use of AI.

More robust support for the CDO community and clear guidelines related to collaboration and responsibilities with data and AI can help effectively leverage the CDO community to inform the responsible use of data for AI and translate the lessons they have learned over the past five years to build a mature AI governance function in the federal government.

Key Insights

The 2024 Federal CDO Survey demonstrates how CDOs are driving federal capacity to leverage data as a strategic asset. The results and insights from the 2024 CDO Survey reveal opportunities to strengthen the federal CDO community to help ensure the U.S. federal government can meet evolving data needs in the face of rapidly advancing technology and innovation. Key insights from 2024 include:

- **CDOs' priorities are evolving as they make progress in achieving their missions.** CDOs' progress is evident in the high success rates reported by CDOs and the widespread adoption and usefulness of data strategies in achieving the CDO mission. In 2024, CDOs reported a wider range in mission priorities, with increased prioritization of improving data infrastructure, facilitating data sharing, and preparing data for implementing and advancing innovative technology compared to previous years.

- **CDOs are building data maturity and successfully implementing their missions despite declining clarity in the CDO role.** In 2024, CDOs report increased confidence in achieving their mission as well as increased data maturity across their organizations. Interestingly, despite clear progress and growing data maturity, CDOs reported declining clarity in responsibilities of the role. Further, almost half of CDOs cite conflicting statutory or legal authorities – an increase of almost 15% from 2023.

- **CDOs' roles and responsibilities in relation to other data and innovation roles in the federal government remain unclear.** Though a majority of CDOs find the CDO and CIO missions highly complementary, the reporting structure is viewed less favorably and the perceived benefit is declining. In 2024, only 11% of CDOs found the CDO-CIO reporting structure as beneficial, and CDOs called for delineation of the CDO and CIO roles. Similarly, half of CDOs see missions of CAIOs as highly complementary to their own – though 47% say they need more guidance on CDO responsibilities with AI in their organizations, and some point to potential redundancy in data and AI responsibilities.

- **CDOs face persistent challenges and need more support from organizational leadership.** Consistently, CDOs report financial and budgetary as a key challenge. Resource needs are not limited to funding – each year the CDOs have cited a need for FTEs and technology as well. Further, almost half of CDOs also hold other roles, compounding capacity challenges. Organizational leadership can help alleviate capacity challenges for CDOs by allocating budgets and staff support; however, in 2024, one-third CDOs point to difficulties with leadership support among the top barriers for becoming a data-driven organization and for the CDO community broadly.
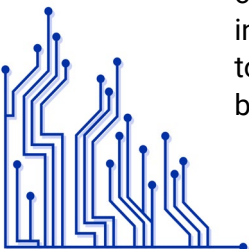
- **CDOs signal interest in more coordinated data governance across the federal enterprise.** Outside of their own organizations, CDOs reported challenges related to a federated and siloed approach to governance across the federal government. While the Federal CDO Council can help with knowledge sharing and networking opportunities for the CDO community, 60% of CDOs stated a need for further guidance from OMB to implement key Evidence Act provisions, while 72% report that an updated Federal Data Strategy implementation plan would help them achieve their missions. The reported lack of government-wide data standards across core domains of government and the widespread interest in an updated FDS further demonstrate a need for a more coordinated whole-of-government approach to federal data governance.

- **CDOs are looking for more clarity on CDO responsibilities and expectations related to AI.** CDOs recognize their roles are aligned with federal advancement of AI technologies. As revealed in the 2023 CDO Survey, the CDO role is expanding to include AI, and in 2024, there is continued momentum to align CDO responsibilities with supporting AI technologies. Almost three-quarters of CDOs reported involvement in the development of their organization's AI Strategy, and 90% of CDOs already use AI and are planning for AI next year. However, 43% of CDOs report lack of guidance related to AI as a primary barrier to using AI in their organizations.

Recommendations and Next Steps

The federal CDO community oversees data governance and management responsibilities critical to the responsible use of data for federal decision-making. Effective use of data provides an opportunity for the government to meet the growing public expectations of government services amid rapidly advancing technological innovations and improve the business of government. To do so, the federal government must prioritize the management and governance of data central to achieving its mission, and take steps to strengthen the role of Chief Data Officers across the federal enterprise.

To address the needs of the CDO community and leverage lessons learned from the first five years of the official CDO function in the federal government, the Data Foundation offers the following recommendations.

1. **Clarify roles and responsibilities of Chief Data Officers.** OMB could issue guidance on Title II of the Evidence Act to provide more clarity related to federal CDOs' responsibilities and roles. To clarify the CDO role in relation to other data and information officials particularly, the Data Foundation encourages OMB to develop comprehensive guidance on CDO responsibilities in relation to CIOs, CAIOs, and other data activities in agencies. Department and agency leaders should also support this goal and create clear delineation of roles within their organizations to avoid redundancy and improve collaboration. Now that CDOs have demonstrated progress developing data strategies and responsibilities clearly outlined in statute, CDOs need more guidance to effectively continue to implement the vision of the Evidence Act and leverage data as a strategic asset that is open by default. In the absence of the OMB guidance, the CDO Council has filled a critical coordinating and enabling role over the past five years to provide support and community for federal CDOs – and will need to continue that role even after guidance is available.

2. **Support data readiness for AI implementation.** Data is a core component of developing, deploying, and using responsible AI tools and sound data governance practices are critical. In addition to clearly articulating the roles of CDOs related to AI, OMB, in coordination with the Federal CDO Council, should develop guidelines for data preparation and management to support AI initiatives. Further, the CDO Council should encourage CDO collaboration and develop shared resources to promote AI best practices and lessons learned across the CDO community. An aligned approach to AI can help ensure accountability and transparency related to data used for AI tools. Further, department and agency leaders should develop a framework for CDO involvement in AI strategy development and implementation to provide CDOs with specific guidelines related to their organizations to support data readiness for AI within and across agencies.
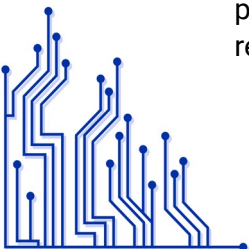
3. **Strengthen leadership support for CDOs.** Support from department and agency leaders is critical to the success of CDOs and to fully realize the value of the CDO role. As the coordinating body for federal CDOs, the Federal CDO Council has a unique position to promote the value of CDOs across government and provide CDOs with resources to approach their organizational leadership. The CDO Council should explore more active ways to share the highly salient use cases that demonstrate the value of the CDOs with leaders across the government. The CDO Council should also develop templates and talking points to help CDOs communicate value to leadership to bolster CDOs' efforts to advocate for resources within their organizations and build stronger relationships with leaders across their organizations. By prioritizing a coordinated approach to communicating the value of the CDO role for advancing CDO organizational priorities, the CDO Council can generate broad support from department and agency leaders and empower data leaders across the federal government. In addition to the CDO Council working with the CDO community, department and agency leaders should invest in data governance and management.

4. **Evaluate opportunities to enhance or update the Federal Data Strategy through coordinated approaches to information sharing and standardization across agencies.** An updated release of the Action Plan by OMB, in coordination with the CDO Council, could support CDOs with implementation of the Federal Data Strategy across agencies. Updated priority items can further align CDOs' efforts to build data maturity across their organizations and support the federal use of data as a strategic asset. Ensuring timely and consistent updates to the FDS, monitoring progress, and providing necessary support can help address CDOs' concern about government-wide data coordination. In addition to providing more clarity related to responsibilities, roles, and guidelines for engagement with other information, data, and evidence officials by offering high-level, government-wide strategy, OMB leadership can more effectively coordinate implementation of the Evidence Act.

Chief Data Officers have made tremendous progress in the five years since the passage of the Evidence Act. To continue the momentum behind data and technology advances, federal data leaders need ongoing clarity and support. Looking ahead to the next five years of Evidence Act implementation and beyond, CDOs should be empowered to leverage their expertise, grow the data community, and contribute to a cohesive approach to data governance across the government.

The evolving landscape of data management, coupled with the rapid advancement of AI technologies, underscores the role CDOs will play in shaping the future of federal data strategy. As agencies increasingly rely on data-driven decision-making to benefit the American people and businesses, the strategic vision and leadership of CDOs will be instrumental in navigating complex challenges, fostering innovation, and ensuring responsible data use. By addressing the persistent barriers identified in the 2024 Federal CDO Survey and identifying the opportunities for successes, the federal government can continue to better use data to become more efficient, more transparent, and improve outcomes.

Annex: Survey Methodology

The findings presented in this report are informed by the results of the Data Foundation's fifth annual survey of federal Chief Data Officers (CDO). The sample frame was determined based on role and authorities described in the OPEN Government Data Act – Title II of the Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act), P.L.115-435, Sec. 3520(c). The Evidence Act required all 24 Chief Financial Officers (CFO) Act agencies to designate a CDO within each organization, and delegates the CDO functions to Statistical Officials (SOs) at 44 USC 3520(d). The sample frame includes all department-, agency-, bureau-level CDOs and data leadership roles. The data leaders identified in the sample were limited to two levels below the highest-level data officer based on agency organizational charts. To compile an inventory of known federal CDOs and SOs that fit within the scope of the identified sample frame, the Data Foundation primarily used Leadership Connect – a directory of federal employees – as well as agency websites, social media, and Data Foundation networks. The final sample frame consisted of 232 CDOs, SOs, and individuals performing duties similar to CDOs.

In prior surveys of federal CDOs, the Data Foundation found that SOs did not find many of the questions from the CDO survey as relevant to their role. To improve the relevance of the questions for the SOs and ensure integrity of the responses, the Data Foundation created a separate survey track for SOs to follow once the respondent identified as a SO with delegated data governance and management responsibilities at the beginning of the questionnaire. The 2024 SO Track of the CDO survey included 24 questions; the questions featured on the SO survey track were also on the full CDO survey. The SO responses were grouped with the CDO responses on questions that overlapped for the analysis of survey results.

Using the survey platform IdSurvey, the Data Foundation invited 232 identified CDOs, SOs, and CDO-like individuals to participate in a web-based survey. When firewalls prevented access to the IdSurvey web-form, Data Foundation offered participation via an alternative survey platform, Survey Monkey. Data Foundation also provided an option for participation by phone. The CDO track and the SO track were included on both platform options.

The initial invitation was sent to the identified sample August 8, 2024, followed by four reminder emails sent from IdSurvey. For those in the sample that could not receive the initial IdSurvey invitation due to firewall protections, the Data Foundation sent an invitation via the organization's email account on August 14, 2024, with two follow up reminders. In addition to email outreach from the survey platform, Data Foundation staff contacted CDOs by phone for two rounds of additional non-response follow up, and Data Foundation leadership sent further email reminders encouraging participation. The survey period closed on September 27, 2024 with 12% final response rate.

Additional insights and research conducted by report authors and Data Foundation staff supplemented the survey findings.

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