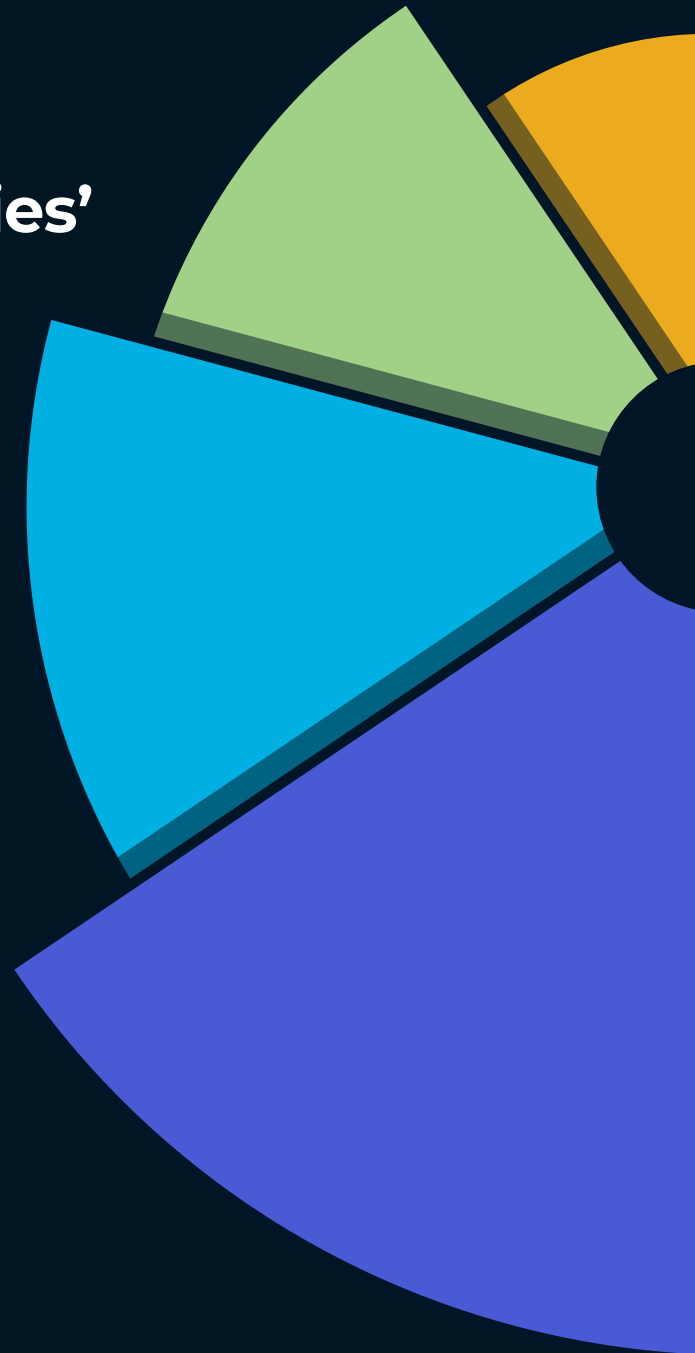

The Growth and Challenges of the

Chief Data Officer

(CDO) Role and Agencies' Data Maturity

A 2022 SURVEY OF FEDERAL CDOs



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Disclaimer

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Executive Summary

The Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act) requires agency heads to designate a nonpolitical official as Chief Data Officer (CDO). This new capability in government specifically calls for officials who have qualifications and training in data governance, privacy, data collection, data management, data analysis, and data dissemination to perform tasks that build capacity, infrastructure, and the use of data to inform decision-making.

CDOs are instrumental in moving their agencies along the data maturity ladder, which culminates in the agency using data and engaging in evidence-based decision-making. The Data Foundation's three annual surveys of federal CDOs show that while CDOs are making commendable progress implementing the Evidence Act and the Federal Data Strategy, there are understandable challenges to achieving the CDO mission that can be addressed with more support.

The Data Foundation 2022 CDO Survey, conducted in partnership with Guidehouse, adds additional context and new questions to better understand these challenges, along with themes related to equity and customer service. The Data Foundation combined its survey results this year with information from the CDO Council's 2022 survey to develop a more complete view of the CDO office and to help shape recommendations.

Key Findings

- **A majority of CDOs are making progress on the 2021 Federal Data Strategy priority action items, but they need additional support.** Progress on the Action items is steady with a majority (63%) of responding CDOs reporting that they had started or completed implementation of at least 5 of the 6 priority Agency Action Items that were detailed in the 2021 Action Plan for CDOs. However, last year's survey showed a greater percentage of CDOs (75%) having started or completed 5 of the 6 items.
- **The typical CDO has significant federal experience and occupies a leadership position in their agencies.** The CDO role is a senior level position and, as such, requires an extensive background in federal government. A vast majority of CDOs (92%) worked for the federal government for 5 or more years and 80% worked for the federal government for 10 or more years. CDOs also report long tenures with their organizations with 96% having more than one year of experience and half with 6 or more years of experience.

- **CDOs play a key role in their organization's data culture.** A majority (70%) very much or completely view their role as CDO as being someone who influences their organization's data culture. CDOs are change agents, engaging with stakeholders across their organization to improve the quality and use of data.
- **CDOs play a key role in their organization's customer service experience.** This survey found that most CDOs view their role in improving data quality and making data accessible and usable as being critical to the customer service experience. CDOs use two primary methods of engagement: public presentations and making available public facing data products.
- **Challenges to CDOs' success remain.** CDOs have a clear understanding of their CDO mission and the challenges they face. Key priorities for success identified by CDOs include improved infrastructure and practices that support data governance, the need for more staff, improved data literacy, increased support from OMB with frequent check-ins and follow-ups, funding to support the CDO mission, and, finally, greater clarity about the CDO role in general and the different expectations of CDOs versus CIOs.

Recommendations

Based on the survey results in 2022, there are several opportunities to support CDOs in their implementation of the Evidence Act and other priorities over the next year:

- **Recommendation 1 – Congress should increase CDO funding flexibilities and provide more direct resources to CDOs.** Most CDOs (83%) do not have adequate resources to fulfill their statutory responsibilities and support agency missions. CDOs need sustained, predictable, and adequate resources to implement data priorities. Congress should authorize CDOs to use additional funding flexibilities and set-aside authorities, as well as provide increased direct appropriations for CDOs to ensure they can succeed in their mission. This longer-term resourcing plan aligns with the congressional intent in establishing the CDO role through the Evidence Act, which created the position indefinitely rather than for a short-term period. OMB should also include such requests in the FY 2024 President's Budget Request to Congress.
- **Recommendation 2 – OMB should issue required guidance to CDOs to clarify responsibilities and to enable full implementation of the OPEN Government Data Act.** CDOs are operating under the general framework of the Evidence Act, the Federal Data Strategy, and their peer community of practice. CDOs need clarifying guidance regarding

the data governance function in government, open data and tiered access, and better-defined roles and recognition among senior leaders in their agencies. This guidance was required by the OPEN Government Data Act, Title II of the Evidence Act, but has not yet been issued by OMB. Without this guidance agencies will apply implementation inconsistently. Issuing the guidance would greatly improve and accelerate implementation activities for CDOs.

- Recommendation 3 – Congress should create a federal CDO at OMB as a Senior Executive-Level Position.** While the CDO community has grown with the establishment of the CDO Council and CDOs across government, CDOs describe that the lack of guidance and support from OMB is something that could be improved. Three-in-five responding CDOs would like to see a federal CDO position created. The establishment of a single federal CDO at OMB would bolster this capability, the visibility of the CDO community, and provide a singular coordinator within the Executive Office of the President to work alongside the component offices of the White House and other relevant councils in supporting the maturing and growing CDO community.
- Recommendation 4 – Congress should remove the statutory sunset for the CDO Council.** The CDO Council was established by the Evidence Act and serves as a community and valuable resource for federal CDOs. The CDO Council has demonstrated its value to the CDO community and any sunset period should be removed in statute to ensure CDOs continue to collaborate and coordinate in the years ahead.

The results from the Data Foundation’s third annual survey of federal CDOs and the CDO Council’s second annual survey show that CDOs are focused on their missions but that they could be more successful if steps are taken to support their office. It is imperative for the maturing CDO community that Congress, leaders in the Executive Branch, and external partners continue to find ways to support and encourage federal CDOs.



Introduction

The OPEN Government Data Act, or Title II of the Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act), established Chief Data Officer (CDO) positions in federal agencies.¹ CDOs are responsible for agencies' data governance, for fulfilling the expectations of the Federal Data Strategy, and for meeting the requirements of the OPEN Government Data Act. CDOs are envisioned by the Evidence Act to better organize government data to ultimately support decision-makers' ability to use data to make impactful decisions. The Evidence Act also established a CDO Council—a community that supports best practices and provides information to support CDOs as they develop data-driven organizations.

In 2019, the Executive Branch published the Federal Data Strategy, which outlined a 10-year strategic plan to leverage the use of data as a strategic asset, coordinated by the White House's Office of Management and Budget (OMB).^{2,3} It was soon followed by the first government-wide action plan with the goal of moving agencies through four steps to achieve data and evidence use maturity:

1	Foundational activities of governance, planning, and infrastructure
2	Enterprise activities of standards, budgeting, and coordination
3	Optimized activities of self-service analytics
4	Data-driven activities of proactive evidence-based decisions and automated data improvements

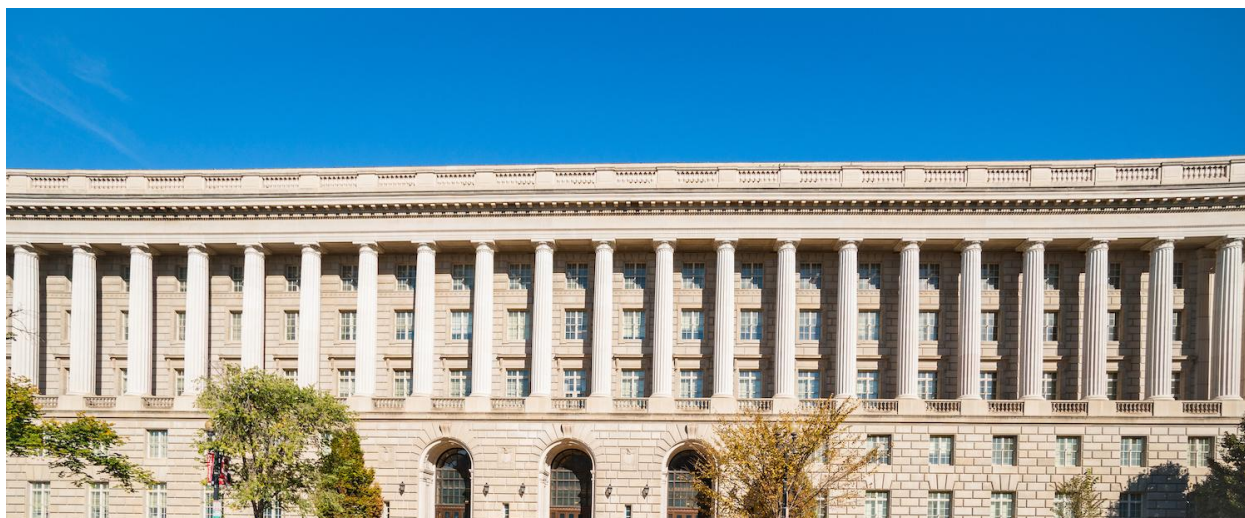
The Federal Data Strategy also calls for an annual action plan that prioritizes and outlines actions that agencies should undertake to implement the Federal Data Strategy and provides a timeframe for achieving the actions. In December 2019, the first Federal Data Strategy Action Plan was released and included 20 specific action items across three categories to be completed within one year. The Data Foundation began measuring and tracking CDO office maturity soon after and, in 2020, conducted its first survey of federal CDOs.⁴ A second survey and report was developed in partnership with Grant Thornton Public Sector LLC, now Guidehouse, in 2021.^{5,6}

The second Federal Data Strategy Action Plan was released in late October 2021.⁷ The Action Plan recognized that agencies had not yet fully completed the 2020 action items and allowed them flexibility to either complete those, or for more mature agencies, to move forward on their foundational activities. The Action Plan included 11 total actions, with 6 priority agency actions and 5 other communities of practice or shared solutions actions.

The following table summarizes the actions:

Agency Actions	Community of Practice or Shared Solutions Actions
<ul style="list-style-type: none"> → Gather and Assess Data Identified for Priority Agency Questions → Mature Data Governance → Data and Infrastructure Maturity → Increase Staff Data Skills → Publish Agency Open Data Plans → Improve Data Inventories 	<ul style="list-style-type: none"> → Artificial Intelligence and Automation → Government-Wide Dashboards and Infrastructure → Data Skills Workforce Development → Interagency Wildland Fire Fuels Data Management → Geospatial Data Practices

Data Foundation Survey Findings

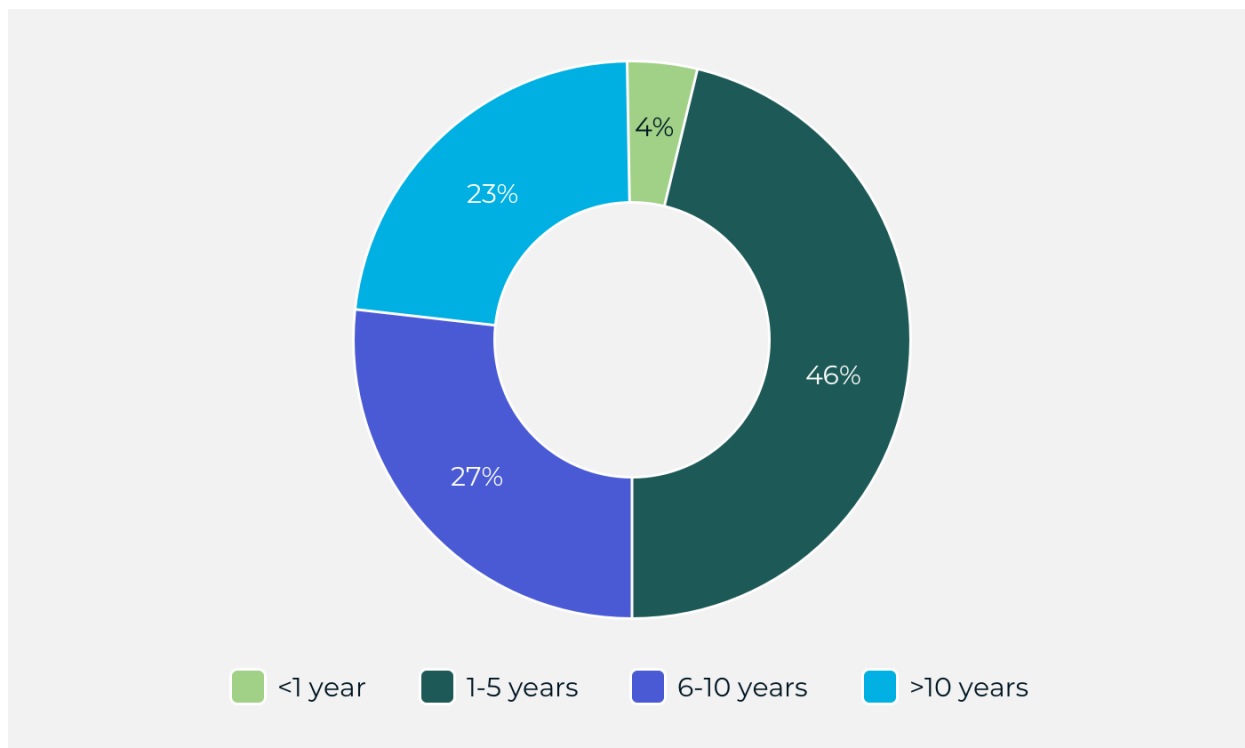


Similar to previous Data Foundation CDO surveys, the 2022 survey collected data from federal agency, bureau, and operating division CDOs and Statistical Officials about the CDO role, mission, Federal Data Strategy successes, and OMB guidance. This year's survey added new questions, including ones related to equity, customer service, whether there should be a federal CDO, and questions about the working relationship between the CDO and Chief Information Officer (CIO). This section summarizes the results of this year's CDO survey and key findings.

CDOs Have Years of Federal Experience

Most CDOs have lengthy careers in the federal government, giving them a good understanding of how government functions. Similar to the 2020 and 2021 survey results, this year's results show that a majority of responding CDOs (92%) have worked for the federal government for 5 or more years and that 80% have worked for the federal government for 10 or more years. Similar to prior surveys, CDOs also report lengthy tenure with their respective organizations, with 96% having more than one year, and half having 6 or more years. These findings demonstrate that CDOs are familiar with the workings of government and have a good understanding of their organizations' data and the business function/mission that is served.

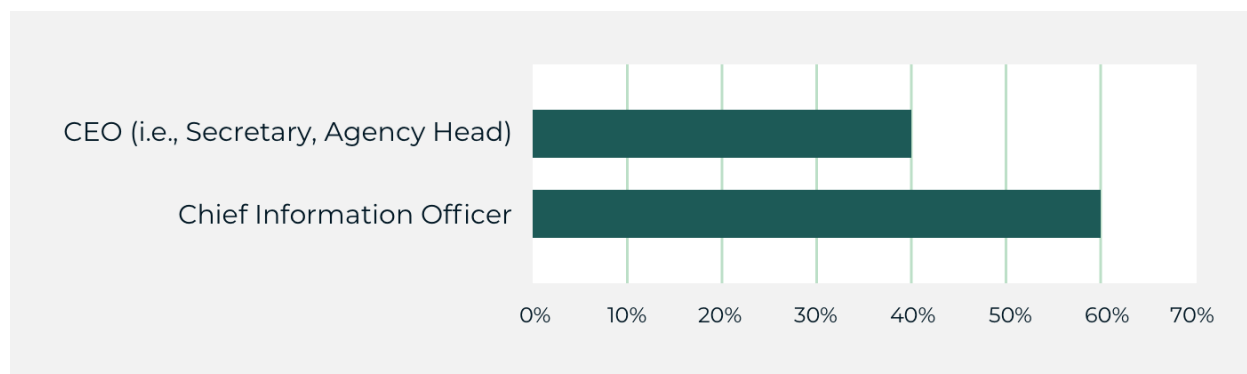
CDOs have Lengthy Experience in Federal Government



There is No Uniform Reporting Structure for CDOs

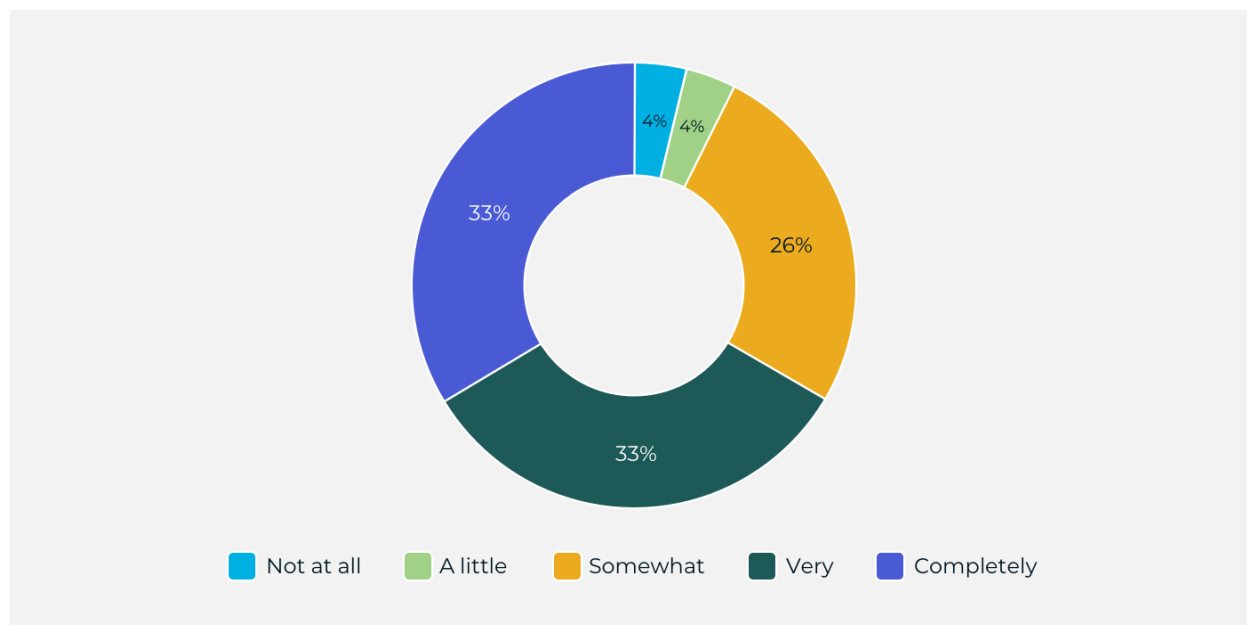
While the Evidence Act formally establishes the role of CDO within agencies, it did not prescribe a formal reporting structure. How the CDO reporting structure should be most effectively organized within agencies is still unclear, as it has shifted over time.⁸ For example, the most common direct report for CDOs in the 2020 survey was to a CIO (33%). In 2021, the most common direct report was to a Chief Executive Officer (30%), a Chief Operating Officer (COO; 20%), and a CIO (15%). This year, a majority of CDOs reported directly to a CIO (60%), followed by the CEO (40%). Notably, no CDOs in the 2022 sample reported to a COO.

CDOs Report to Either the CIO or the CEO



With the CIO being a significant direct report, this year’s survey included two questions designed to better understand the dynamics of the CDO-CIO reporting structure. The first question asked, “To what degree do you think the CDO-CIO relationship in your organization is complementary to achieving your CDO Mission?” Over 65% of CDOs viewed their CDO-CIO relationship as being “very” or “completely” complementary to achieving their CDO mission.

The CIO-CDO Relationship is Beneficial to Achieving the CDO Mission

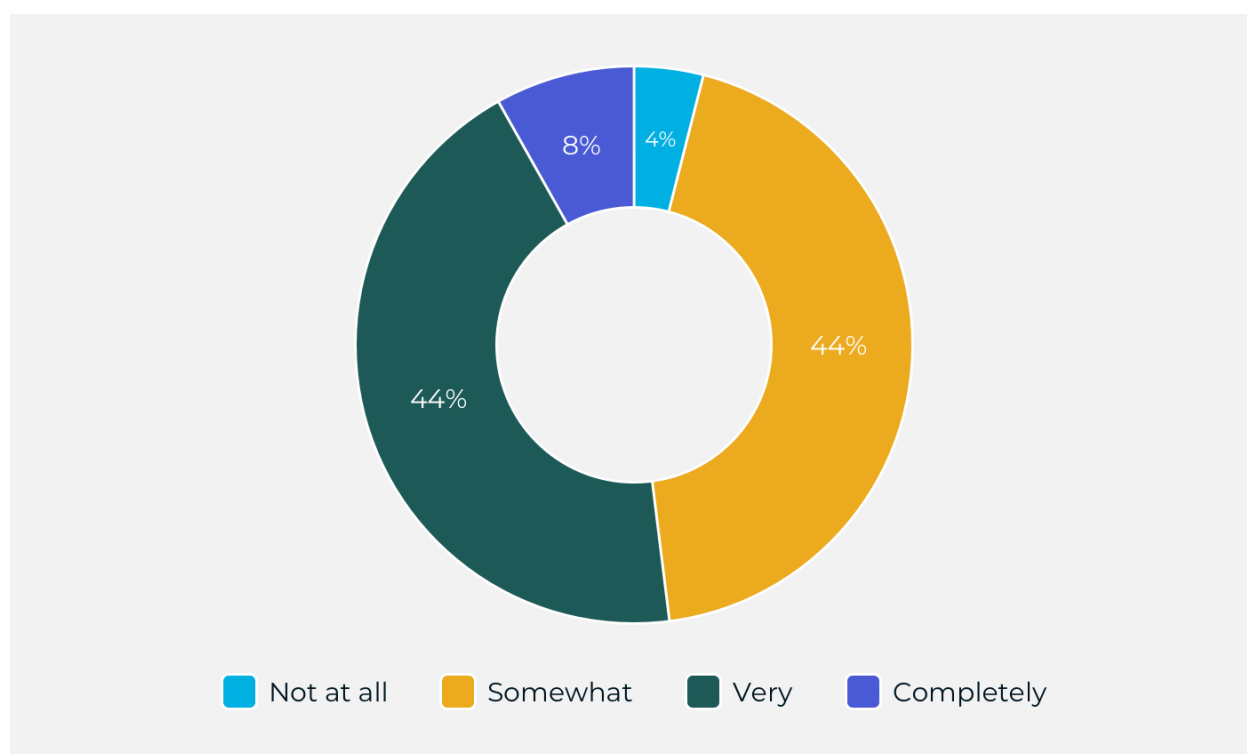


To gain further insight into the CDO-CIO relationship, a second question was asked of only CDOs who reported directly to the CIO, “In general, do you consider the CDO reporting to the CIO to be beneficial or challenging, relative to alternative reporting structures?” Several respondents

indicated that reporting to the CIO is beneficial, such as having better access to their resources, especially in the early stages of building data infrastructures. Others responded that reporting to the CIO was neither beneficial nor challenging. Still others said that reporting to a CIO may create challenges in the long run.

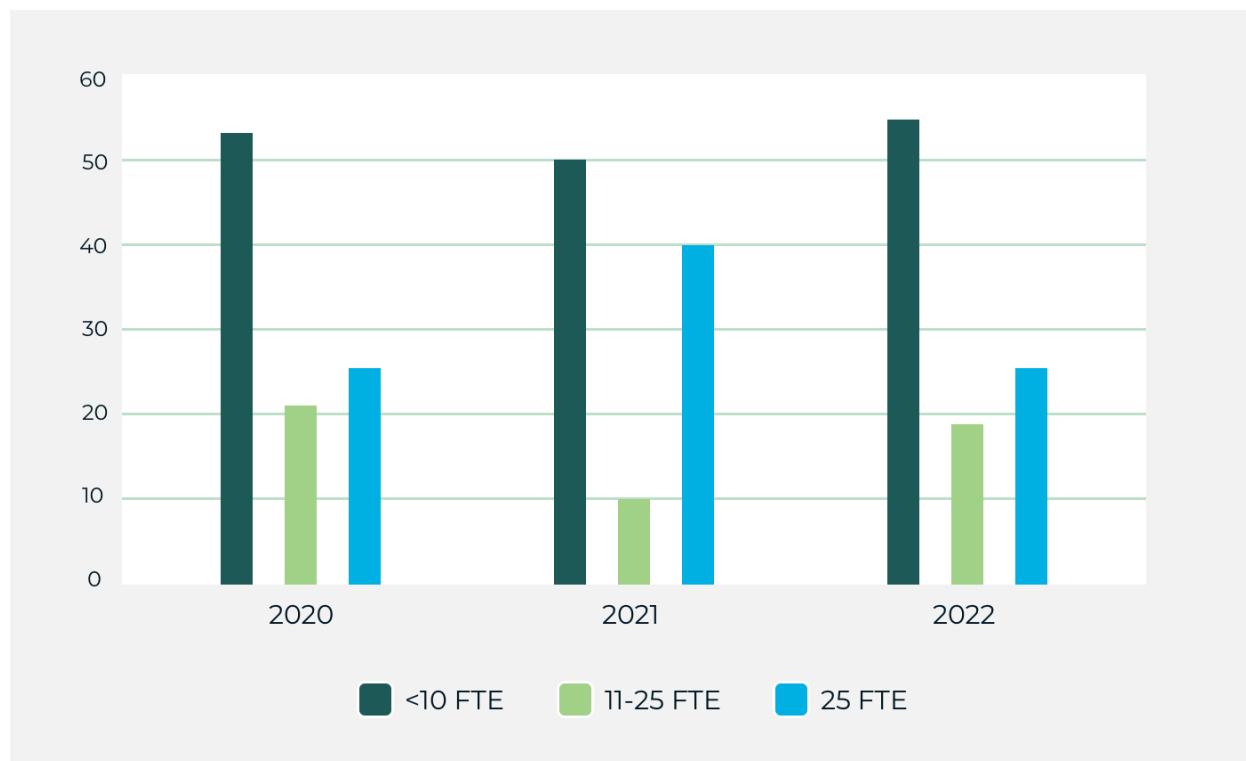
A smaller percentage of CDOs (52%) this year reported that their responsibilities within their organization are “very” or “completely” clear compared to last year (75%). This indicates that some agencies could improve communicating CDO responsibilities.

About Half of CDOs Report that their Responsibilities are Clear



The proportion of CDO offices with 10 or fewer full-time equivalent employees (FTEs) has remained at 50% across 2020, 2021, and 2022. While there was significant growth in CDO offices having more than 25 FTEs between 2020 and 2021, the 2022 survey’s proportion of large CDO offices has declined to 2020 levels. Mid-sized CDO offices (11-25 FTE) nearly doubled from almost 10% in 2021 to almost 20% in 2022. Possible explanations include staffing disruptions due to the COVID-19 pandemic or reduced budgeting for staffing across government.

Half of CDO Offices Have 10 or Fewer FTEs

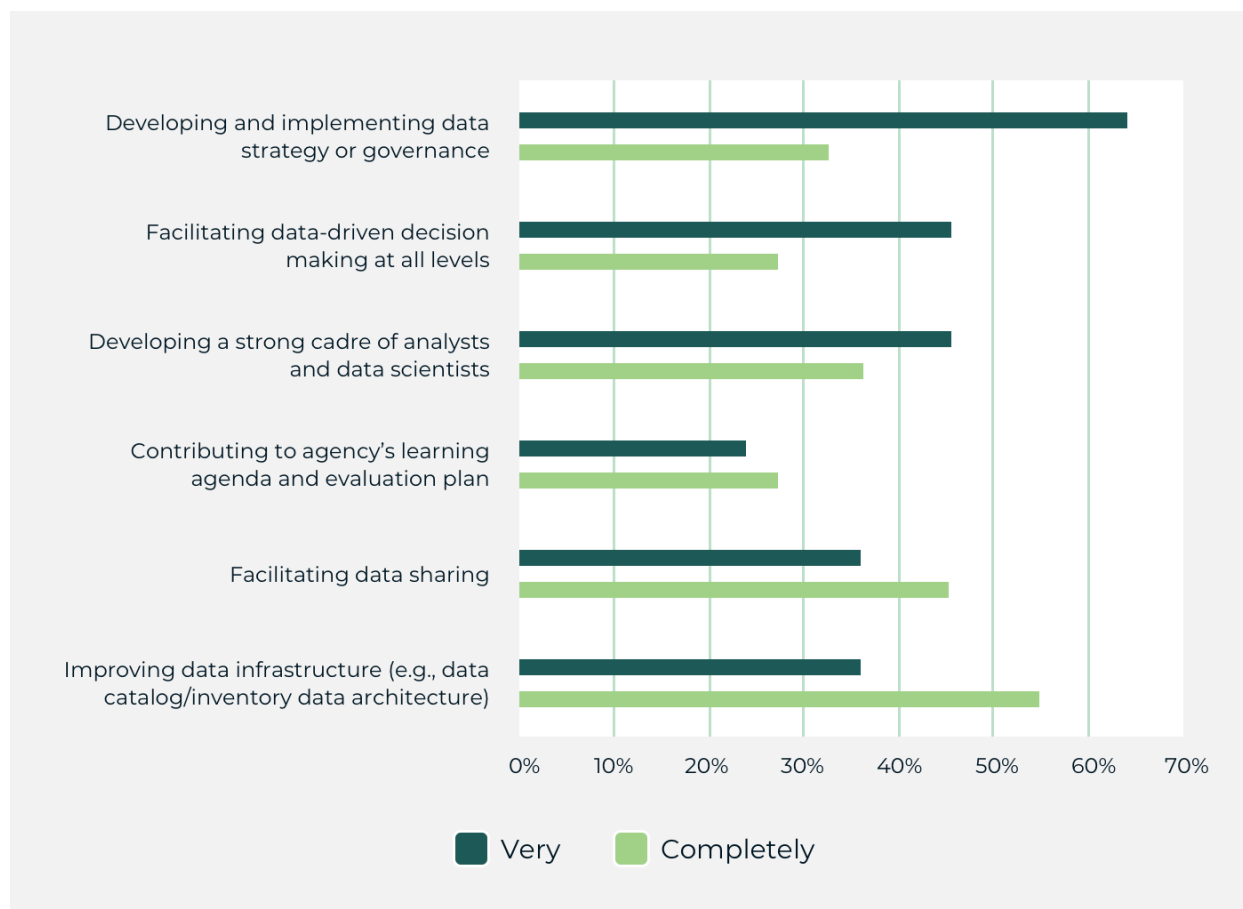


CDOs' Missions

Less than half of respondents (46%) said that they are “very” or “completely” successful in achieving their CDO mission, down from 55% in 2021. Yet, a majority clearly communicated their mission, especially regarding data governance, data literacy, and promoting the use of information for evidence-based policymaking.

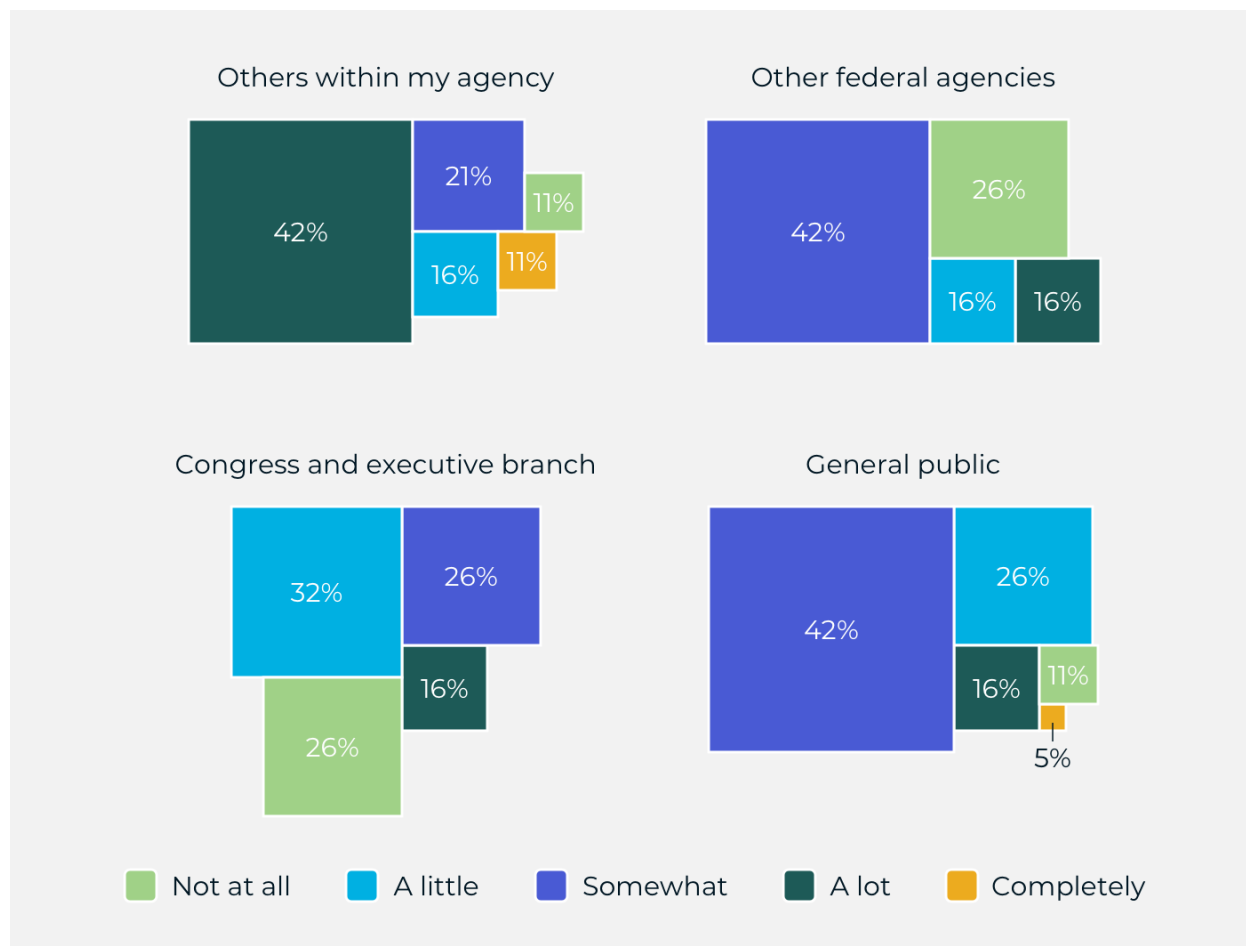
CDOs identified several key functions as being “very” or “completely” important to achieving their CDO missions. Almost 65% of CDOs, for example, responded that developing and implementing data strategy or governance was “very” important to achieving the CDO mission. Over half (55%) of CDOs responded that improving data infrastructure is key. Interestingly, and contrary to requirements of the Evidence Act, only 27% of CDOs indicated that contributing to their agencies’ learning agendas and evaluation plans were of key importance to their mission, and only 23% responded that it was “very” important. These findings could be reflective of the tendency of some agencies to develop learning agendas before they establish the CDO role, or suggest the need for further collaboration between the CDO and agency Evaluation Officers.

CDOs Identified Several Key Functions for Success



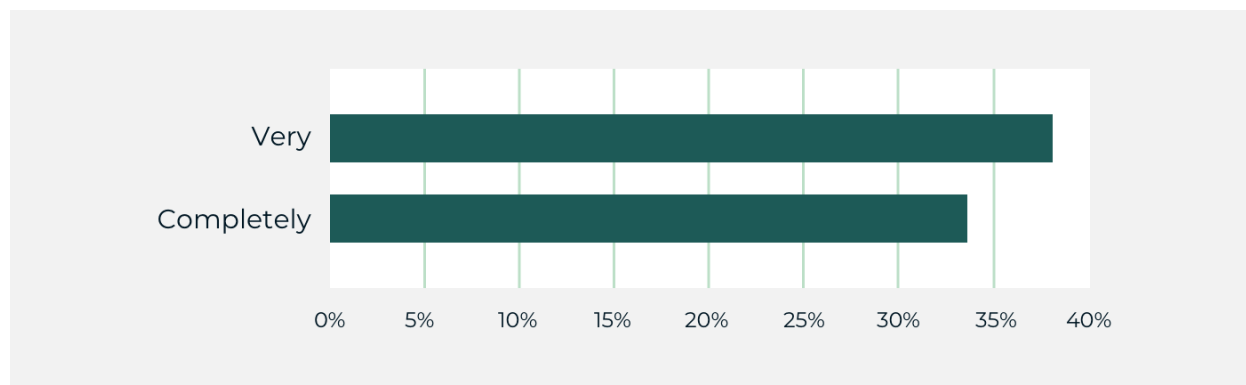
Collaboration between CDO offices and other functional areas and officials both within their own agency and across other agencies is also key to achieving their CDO mission. Most CDOs (88%) reported collaborating with business partners on a daily or weekly basis. A majority also collaborated with their CIO (77%) and officials in other organizations (85%). This year's survey included the probing question, "What would improve collaboration in your organization?" Several CDOs responded that their agency is not required to have Chief Evaluation Officers or Statistical Officials because they are not CFO Act agencies, or that those positions are relatively new or unfilled. Other CDOs responded that there needs to be a more formal structure and that roles need to be more clearly defined to facilitate collaboration. CDOs in smaller agencies report better collaboration.

CDOs Collaborate with Many Stakeholders



CDOs are also responsible for changing their agency’s data culture from one that never or rarely uses data to develop insights to one that consistently leverages data to solve problems. A new question this year taps into how CDOs view themselves as change agents. Over 70% of CDOs responded that they “very much” or “completely” view their role as CDO as being someone who influences change to their organization’s data culture.

CDOs View their Roles as Data Culture Agents



The “Executive Order on Transforming Federal Customer Experience and Service Delivery” stated expectations for improving the federal government customer experience with increased use of data, data sharing, improved processes across federal, state, and local agencies, and involving the CDO Council as part of an interagency-OMB collaboration to develop guidelines.⁹ CDOs provide customer service to several stakeholders, with over half of CDOs (53%) responding that others within their agency depended “a lot” or “completely” on their CDO office. This year’s survey added a question about the CDO role in customer experience that asked, “In thinking about the customer experience at your organization, what role (if any) should the CDO play?” Most of the responding CDOs view their role as being critical to the customer service experience, particularly as it relates to data quality and making data accessible and usable. Another new question, “What practices have you used to engage stakeholders and the general public about your organization’s data assets?” tapped into specific practices that the CDO office uses to engage stakeholders and the public about their organization’s data assets. CDOs mostly responded that they use two primary methods of engagement: (1) public presentations including conferences, town halls, external user groups and social media, and (2) making public-facing products available, such as data inventories, visualizations, and statistical aggregates of data holdings. These findings indicate that CDOs understand their role regarding the federal government customer experience and that they are engaging in practices that facilitate it.

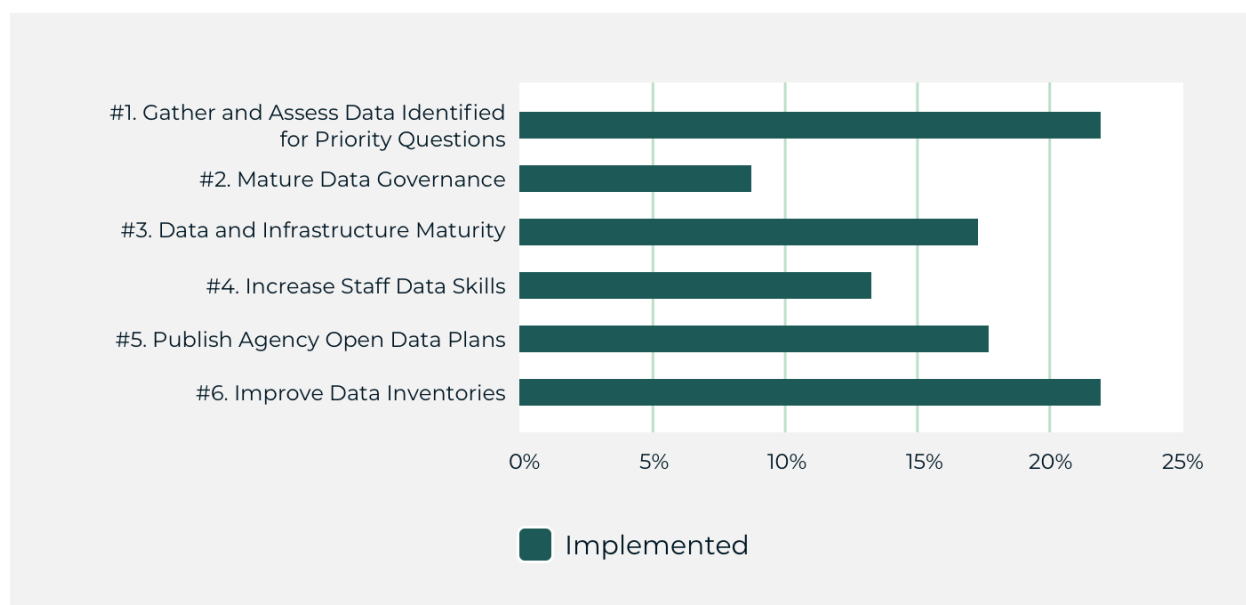
Progress and the Federal Data Strategy 2021 Action Plan

The Federal Data Strategy 2021 Action Plan contained 6 priority actions for agencies to focus on to improve the effectiveness of foundational governance, planning, and infrastructure activities:

- Gather and Assess Data Identified for Priority Agency Questions
- Mature Data Governance
- Data and Infrastructure Maturity
- Increase Staff Data Skills
- Publish Agency Open Data Plans
- Improve Data Inventories

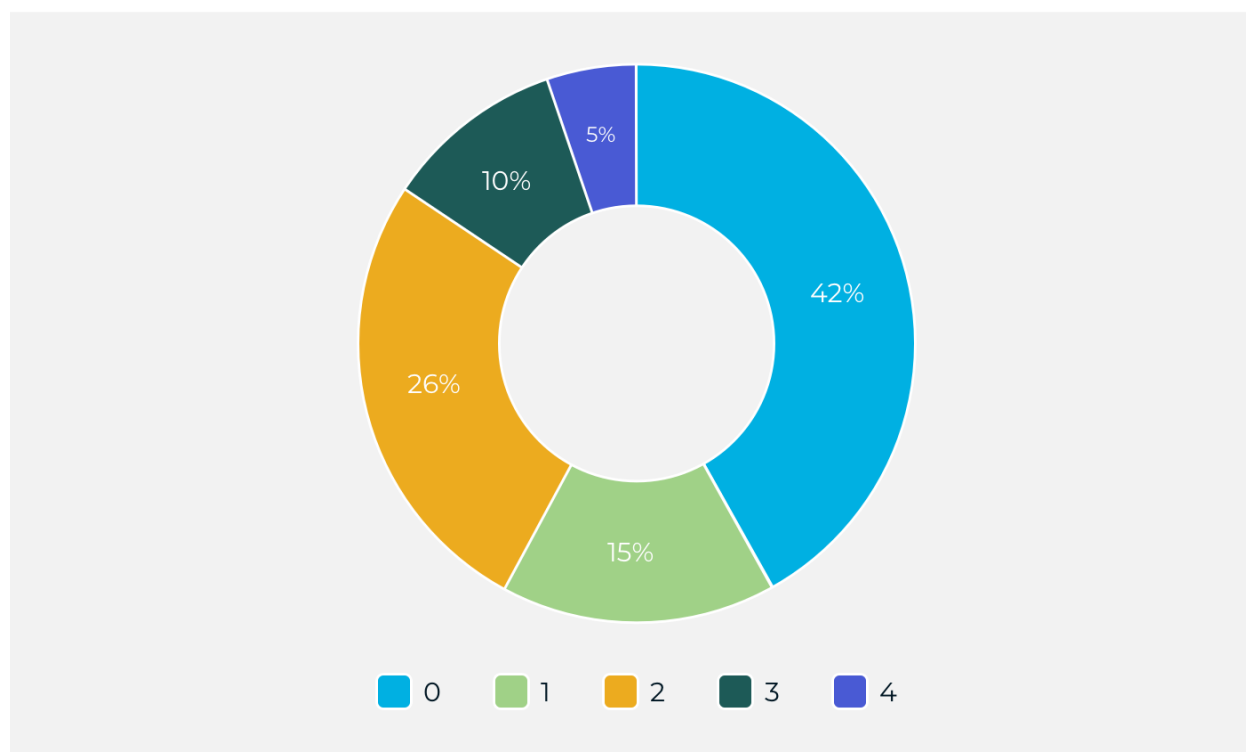
Because agencies were not able to fully implement the 2020 strategy evenly, they were given flexibility to address actions that best serve their agency's mission, with some agencies focusing on producing quality assessments of their data infrastructure, skills, and assets.¹⁰ None of the responding CDOs reported completing 5 or 6 priority action items, but 63% reported having at least 5 of the items “in progress” or “completed,” down from 75% who reported completing at 5 of the items in last year's survey. The most frequently implemented Action Items were “Gather and Assess Data Identified for Priority Agency Questions” (22%) and “Improve Data Inventories” (22%).

Progress is Being Made on the Federal Data Strategy 2021 Action Plan



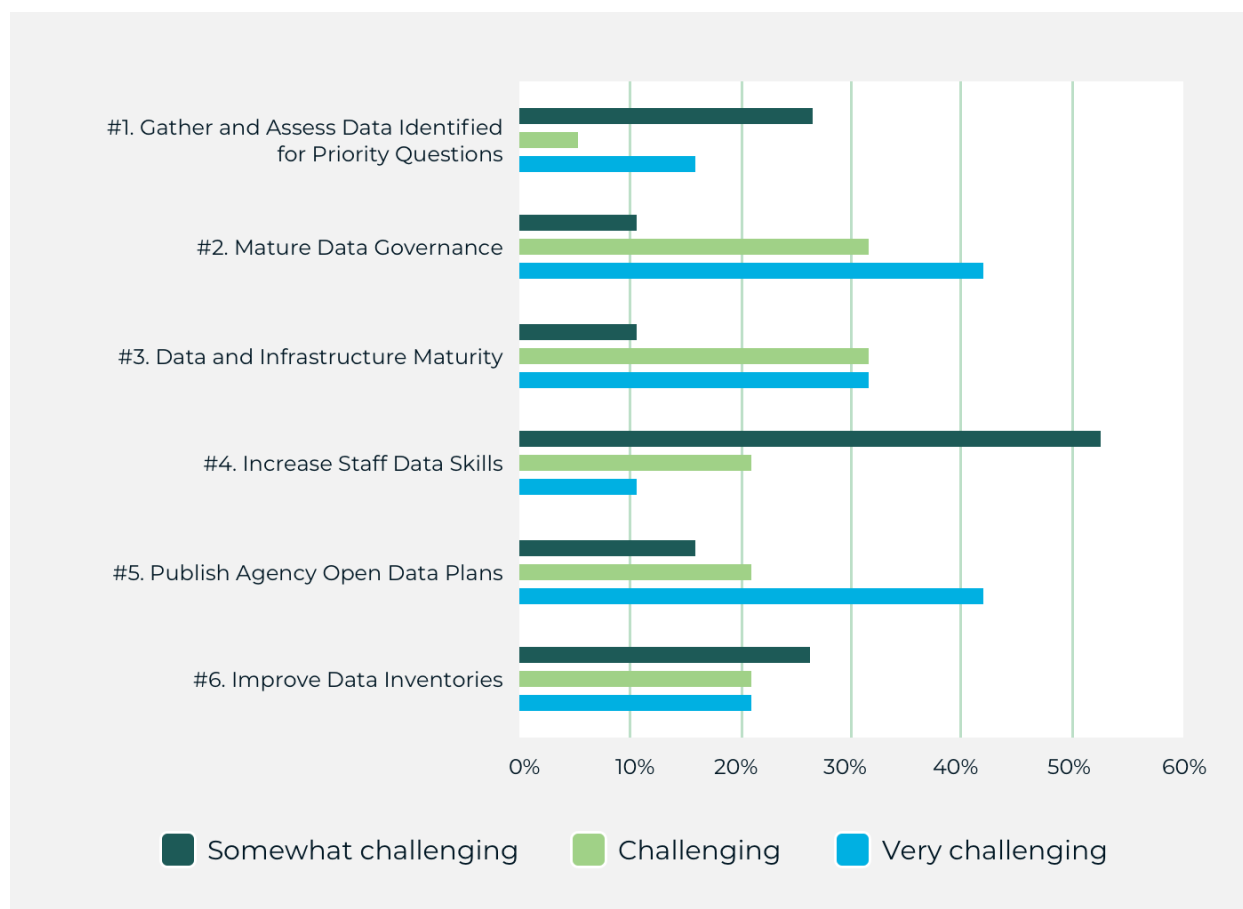
Over half (58%) of agencies completed none or 1 action item, greater than the 30% of agencies in last year's survey. Thirty-seven percent of agencies completed 2 or 3 action items, and 5 percent of agencies reported completing 4 action items. No agencies reported completing 5 or 6 of the priority actions.

Number of Action Items Completed by the Agency



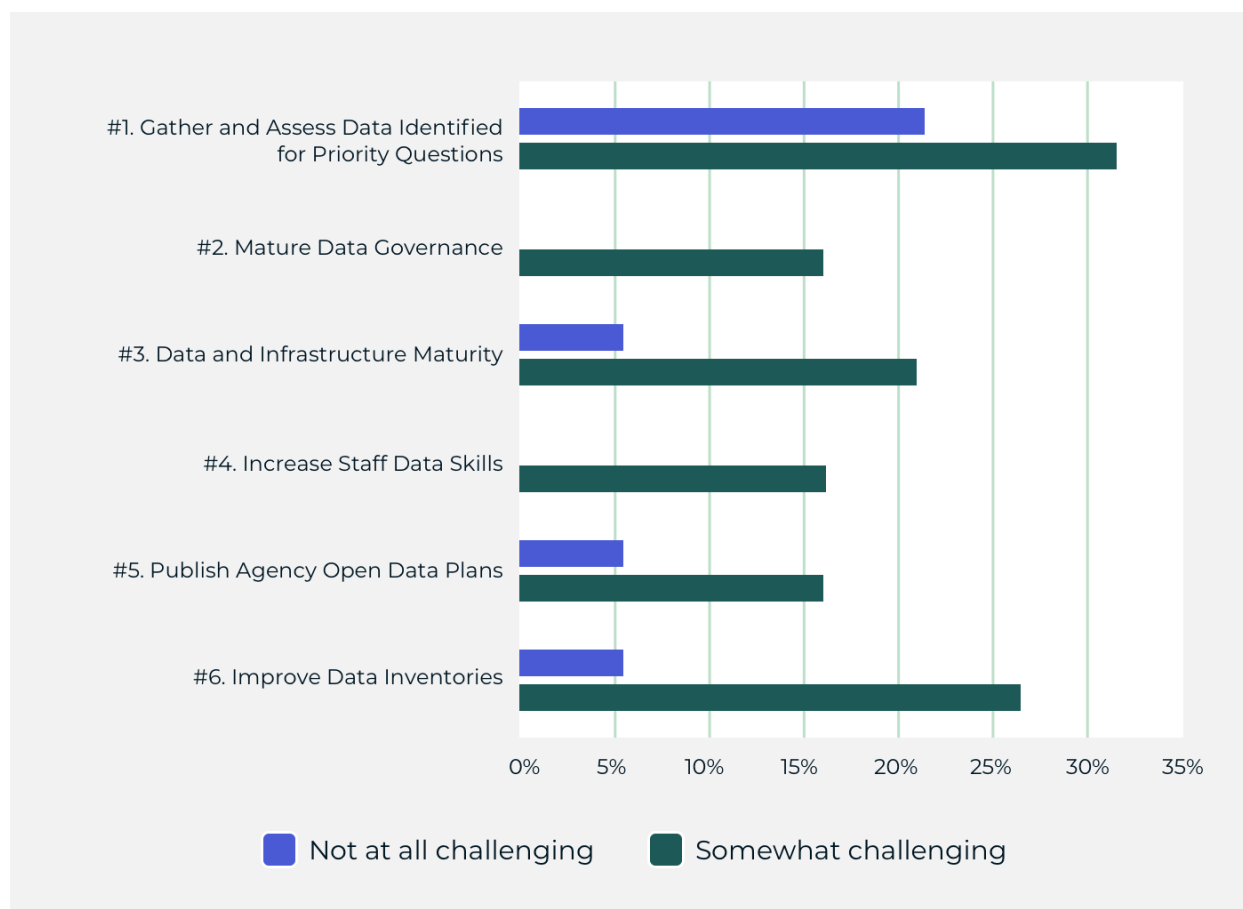
CDOs reported that Action Item #2 “Mature Data Governance” and Action Item #5 “Publish Agency Open Data Plans” were the most challenging (42% of CDOs for each item). Thirty-two percent of CDOs reported that Action Items #2 “Mature Data Governance” and #3 “Data and Infrastructure Maturity” were “Challenging.” Action Item #4 “Increase Staff Data Skills” also stands out with 74% of CDOs who said that its implementation was “Challenging” or “Somewhat Challenging.”

Maturing Data Governance and Publishing Agency Open Data Plans were Challenging



A majority of CDOs reported that Action Item #1 “Gather and Assess Data Identified for Priority Agency Questions” was “A Little Challenging” (32%) or “Not at all Challenging” (21%) and that Action Item #6 “Improve Data Inventories” was “A Little Challenging” (26%) or “Not at all Challenging” (5%).

Gathering and Assessing Data Identified for Priority Agency Questions Presented Few Challenges for CDOs



Other CDO Achievements in 2021

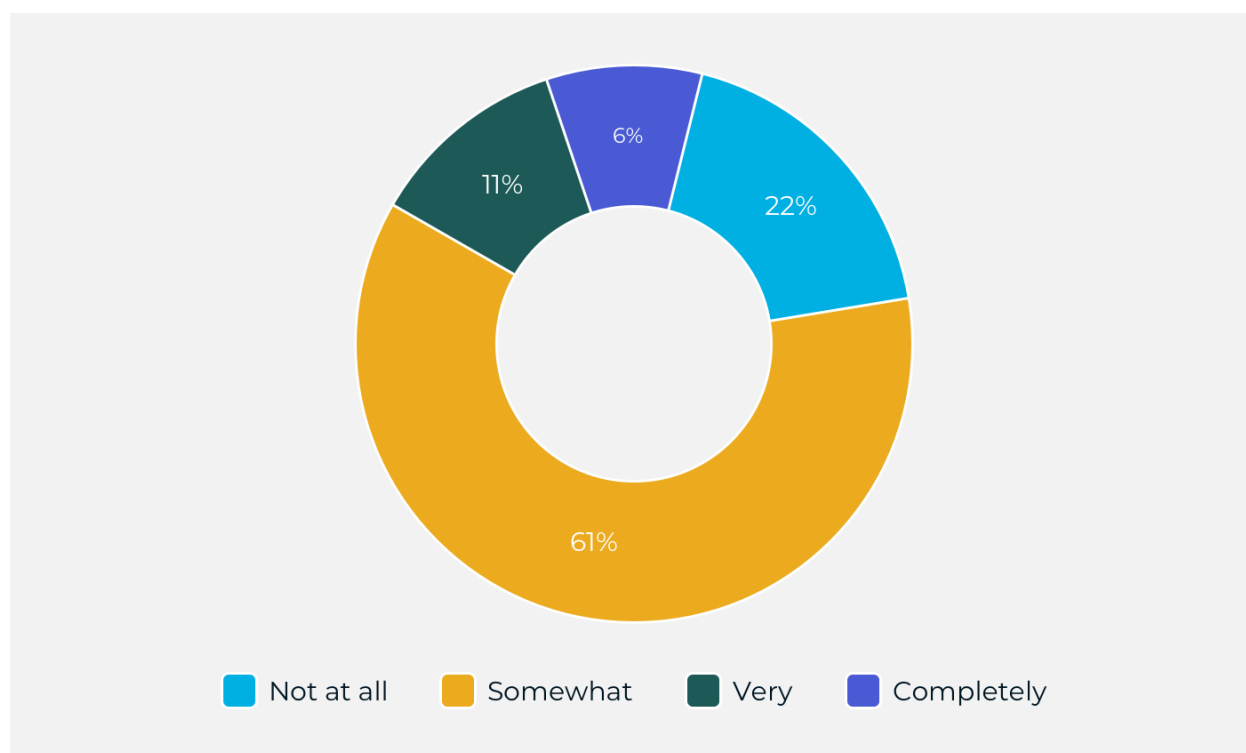
When asked about their office's successes in 2021, most CDOs responded that they had taken data governance actions, such as actions focused on setting policies for data sharing, setting data standards, creating a data warehouse, or creating an agency-wide analytics platform. Many also responded that there were successful improvements in their organization's workforce, such as increasing the number of staff and improving the data literacy of existing staff. Another common success was the development of both internal and public facing data visualizations and dashboards. Success in influencing the culture around data emerged as an important gain in 2021 for several CDOs.

CDOs Continue to Face Challenges

Responding CDOs acknowledged multiple barriers and challenges that impede their progress and success. The lack of resources, as in past survey years, remains a key obstacle to achieving the CDO mission. When responding to whether they have the resources necessary to achieve their CDO mission, 22% responded “not at all.” Sixty-one percent said that they “somewhat” have the resources needed. Less than 20% of CDOs had most or all of the resources needed to fulfill their CDO mission.

Twenty-two percent of CDOs indicated that they do not have the resources necessary to achieve their CDO mission.

Most CDOs Do Not Have the Resources Needed to be Successful



CDOs identified several main areas where they needed more support to be successful:

- Better infrastructure and practices that support data governance
- More FTEs and improved data literacy for the current workforce

- More support from OMB with frequent check-ins
- More funding to support the CDO mission
- Greater clarity about the CDO role and the different expectations of CDOs versus CIOs

Timely Release of Federal Data Strategy Action Plans and Phase II Guidance is Needed

Similar to the 2020 and 2021 survey results, over half of CDOs report that they do not have adequate guidance from OMB. This year's survey asked two additional questions to gain insight into how to improve OMB support of the CDO role. The first question asked, "Should there be a federal CDO position created and established at OMB to provide coordinated leadership across the CDO community?" A majority of CDOs (58%) responded "yes." The second question asked, "What additional guidance in particular would be helpful?" The most common response was that it would be beneficial for developing plans to meet goals and for budgeting purposes if the Federal Data Strategy Action plans were released earlier—ideally allowing a full year for implementation. In a similar vein, CDOs noted that guidance for Title II of the Evidence Act has yet to be released. CDOs responded that OMB prioritization of goals and better communication between OMB and agencies would facilitate their ability to perform their roles. Still others responded that they have not received much guidance at all from OMB, or that they were able to perform their roles without it.

When asked about the need for additional guidance from OMB on privacy (new to this year's survey), several CDOs stated that there needs to be greater clarification in policies and directives and that there is a need for agencies to have privacy officers who are familiar with privacy policy and implications.

The CDO Council's Survey of Members

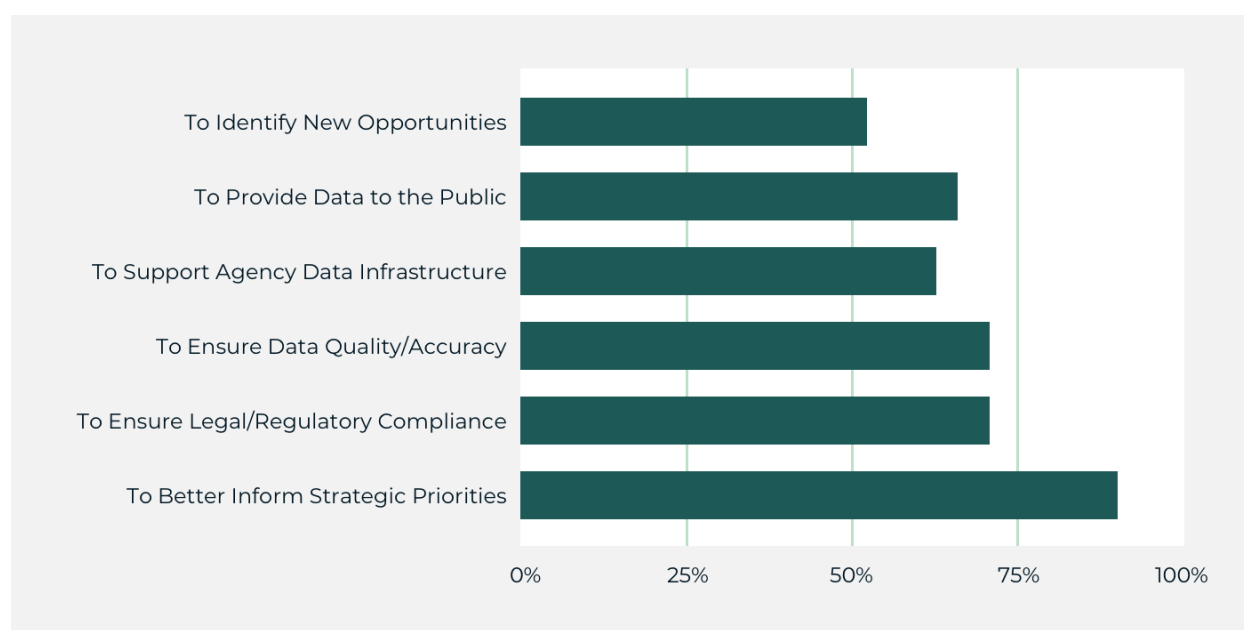
The CDO Council conducted its annual survey of members in early 2022.¹¹ The results and analysis were released on July 17, 2022, with 38 responding CDOs. Although some of the questions overlapped with this year's Data Foundation survey of CDOs, there was additional information to explore in learning about the current status and future opportunities for the federal CDO community as well as some differences in the survey population. The CDO Council limited its survey to its members who are the top-level CDOs in federal agencies, while the Data Foundation survey frame included top-level, bureau, and operating division CDOs.

Characteristics, Roles, and Responsibilities of CDO Council Members

CDOs from large agencies made up over 60% of the respondents, compared to 24% of CDOs from medium agencies and 16% of CDOs in small agencies. A much higher proportion of CFO Act agency CDOs reported that being CDO is their primary role (87%), compared to the non-CFO Act agency CDOs (39%). Over half of respondents in large or medium agencies said that they have been CDOs for 3 or more years of their careers, compared to 33% of those in small agencies. Similar to findings in the Data Foundation's CDO survey, the CDO Council survey found that most CDOs are reporting to the senior-most leaders in their organizations: CIOs, CEOs and COOs. There were differences in the CDO Council's survey regarding the reporting structure with almost a third of large agency CDOs reporting to a CIO and CDOs in small agencies being more likely to report to a COO, Head or Deputy Head of an Agency, or Chief of Staff.

The CDO Council survey asked respondents about their office's current goals. Most CDOs (92%) selected the goal, "To Better Inform Strategic Priorities" followed by "To Ensure Regulatory/Legal Compliance" (73%) and "To Ensure Data Quality/Accuracy" (73%). This indicates that CDOs are focused on solving problems that would hinder their mission and success but that they are also concerned about compliance.

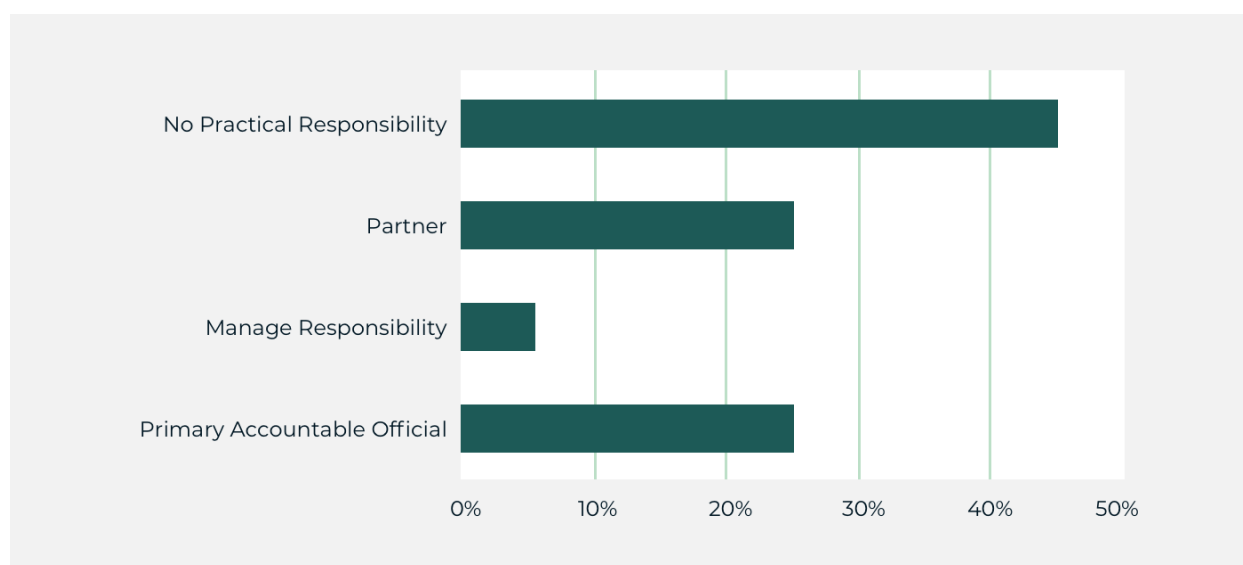
CDOs Identified their Offices' Current Goals



CDOs were asked about their level of responsibility in 28 areas, including data analytics, data strategy, eDiscovery, and information security. The most commonly reported “Primary Accountability” level was for Data Strategy and Open Data in 2022. Between 2021 and 2022, CDOs reported that their level of responsibility for Data Strategy and Data Analytics had increased. In many of the other areas, CDOs’ level of responsibility declined including in open data, the Paperwork Reduction Act, data architecture, data integration, data engineering, records management, data manipulation, data evangelism, geospatial data, eDiscovery, information security, research, data visualization, privacy, Freedom of Information Act, and operations research.

The 2021 Federal Data Strategy added a new Action Item on artificial intelligence (AI), with two milestones targeted for agencies. Reflective of this change, this year’s CDO Council survey asked respondents about their level of responsibility with AI. About 45% of CDOs responded that they have no practical responsibility with AI, compared to 25% who are partners, 5% who have manager responsibility, and 25% who are the primary accountable officials. This signifies that about half of the agencies surveyed were already likely making some progress on the AI Action Item.

CDOs are Making Progress on Artificial Intelligence



There were differences in the size of the CDO office in the CDO Council’s and Data Foundation’s surveys. For example, there was a greater proportion of CDO offices with 10 or fewer FTEs in the CDO Council’s survey (75%) compared to the Data Foundation’s (56%). There was a smaller proportion of CDO offices with 11-25 FTEs in the CDO Council’s survey (12%) compared to the Data Foundation’s (19%). Similarly, a smaller proportion of offices with more than 25 FTEs were in the CDO Council’s sample (12%), compared to the Data Foundation’s (26%) sample.

CDOs Experience Varying Levels of Difficulty Filling Positions

When it comes to the need to hire additional talent and workforce, some CDOs are recruiting to fill vacancies. Thirty-nine percent reported having between 1 and 5 unfilled data talent roles to support the CDO role positions and 7% reported having 5-10 unfilled positions. More than half (54%) of CDOs in the CDO Council survey reported having zero unfilled positions. Many of the CDOs who are hiring are the offices that existed prior to passage of the Evidence Act.

CDOs used contractors to support operational needs, with 63% who reported hiring contractors to perform certain technical tasks. A much higher proportion of CDOs at large agencies (82%) reported hiring contractors than at smaller agencies (30%).

Challenges for CDO Council Members in Achieving their Missions

Like the Data Foundation's survey, the CDO Council asked respondents about the challenges they face with achieving their CDO mission. The most common responses were, "Lack of Direct Funding," "Limited Staff Skills or Workforce Hiring Challenges," and "Data Governance Challenges." CDOs also identified these three as their top challenges in the 2021 CDO Council survey, indicating that they are persistent obstacles and that addressing them would significantly help to support the success of the CDO's mission. Limited funding, especially for long-term projects that support the CDO's goals, creates barriers that could be alleviated with funding predictability and flexibility for multiple years. Issues with staffing could be addressed with better aligned hiring and staffing authorities. Lastly, data governance challenges cover a wide swath of issues, meaning that addressing them will take multi-pronged efforts involving everything from human resources to reducing technological challenges.

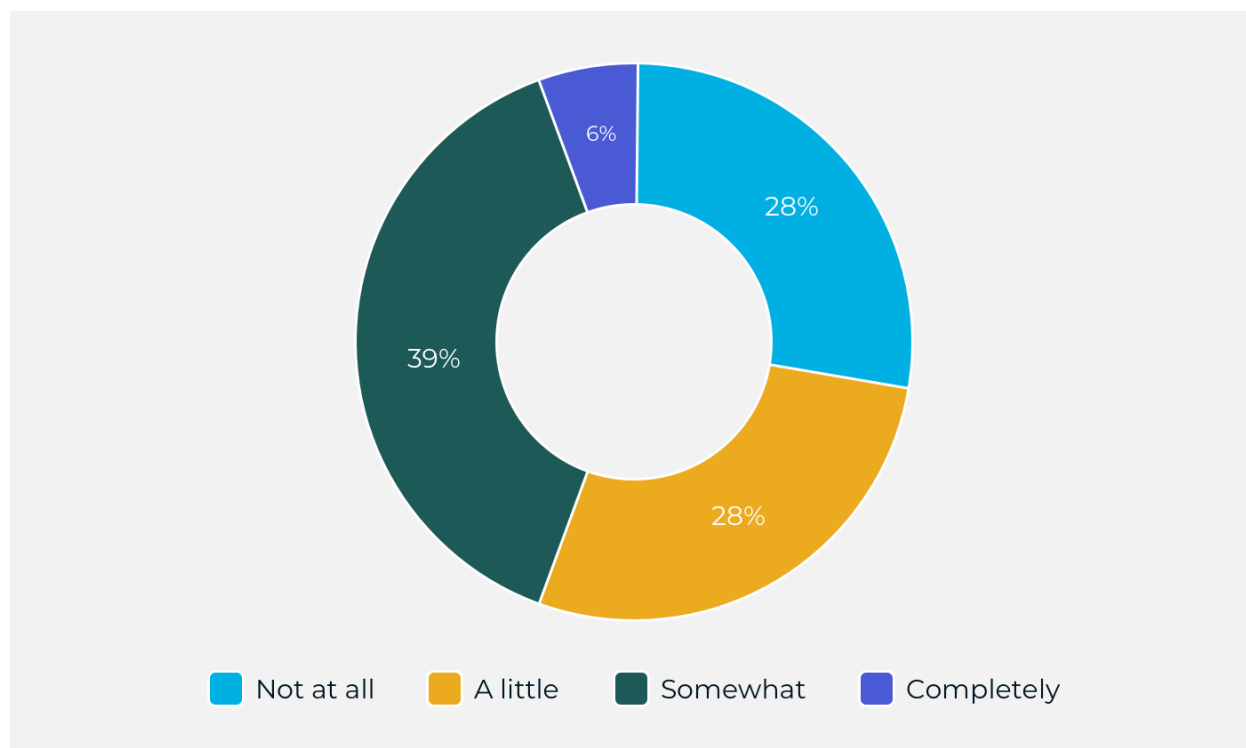
Regardless of the challenges CDOs face, CDOs were overwhelmingly positive in their CDO Council survey responses about fulfilling key goals on their road to success. Again, the top three goals were "To Better Inform Strategic Priorities" (92%), followed by "To Ensure Regulatory/Legal Compliance," (73%) and "To Ensure Data Quality/Accuracy" (73%). All three of these goals tie into the larger purpose of the Evidence Act: improving the use of agency information in evidence-based policymaking.

How CDOs Play a Role in Increasing Equity

The “Executive Order on Advancing Racial Equity and Support for Underserved Communities through the Federal Government” was released on January 20, 2021¹⁰ requiring each agency to identify and address inequities in their policies and programs. Agencies were required to submit initial reviews and equity plans to OMB in August 2021, including an assessment of any potential barriers underserved communities may face in participating in federal services, agency contracting, and procurement opportunities. Each agency was required to produce a plan to address any barriers found by January 2022.

To gauge their involvement in equity, this year’s survey asked CDOs about their level of involvement in their agency’s equity plan. Almost 30% of CDOs said that they were “not at all” involved in preparing their agency’s Equity Plan, compared to 70% who responded that they were “a little” or “somewhat” involved. Only 6% of CDOs responded that they were involved “completely” in the preparation of their agency’s Equity Plan.

Most CDOs Have Some Level of Involvement in Equity Plans

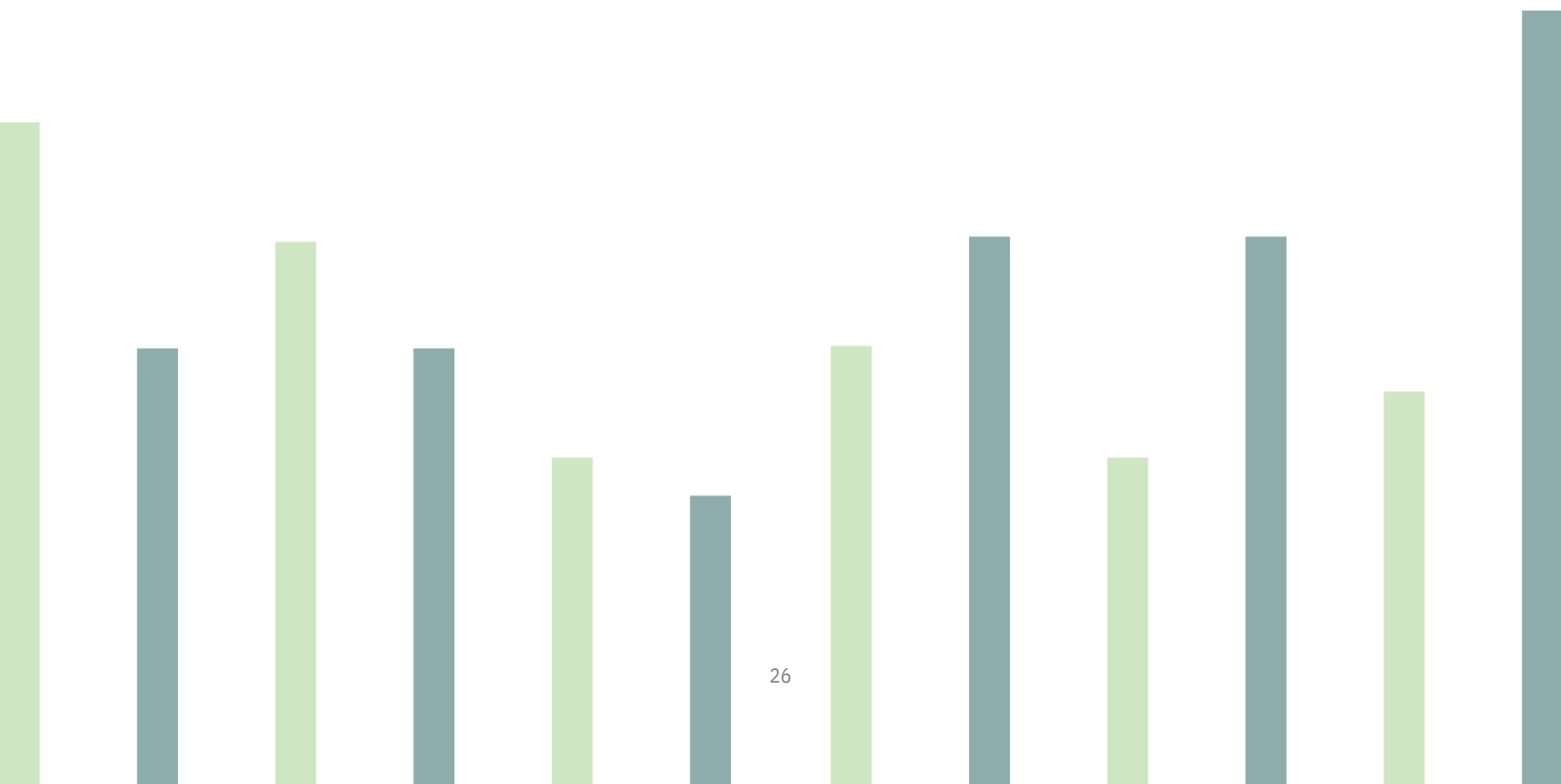


When asked about their organization’s strategy for equity in hiring, CDOs largely responded that there were several efforts underway, including job postings and recruitment efforts targeted to



increase diversity, holding job fairs at institutions with large minority populations, and posting multilingual job ads.

CDOs reported efforts aimed at improving the collection and use of equity data. These included imputing missing data, sending missing data rates to field staff to emphasize the importance of more complete data, and cataloging and improving the quality of existing data, noting new elements that should be collected in the future.



Key Federal CDO Insights in 2022

The third annual Data Foundation 2022 CDO survey and the CDO Council survey offer some key observations about the roles, challenges, and successes of the federal CDO community. They present an opportunity to provide recommendations to strengthen the support for the ongoing efforts of the community and its members. Some key findings and insights include:

- **A majority of CDOs are making progress on the 2021 Federal Data Strategy priority action items but they need additional support.** Progress on the Action items is steady with a majority (63%) of responding CDOs reporting that they have started or completed implementation of at least 5 of the 6 priority Agency Action Items that were detailed in the 2021 Action Plan for CDOs. However, last year's survey showed a greater percentage of CDOs (75%) having started or completed 5 of the 6 items, which is likely a result of the survey sample.
- **The typical CDO has significant federal experience and occupies a leadership position in their agencies.** The CDO role is a senior level position and, as such, requires an extensive background in federal government. A vast majority of CDOs (92%) worked for the federal government for 5 or more years and 80% worked for the federal government for 10 or more years. CDOs also report long tenures with their organizations with 96% having more than one year of experience and half with 6 or more years of experience.
- **CDOs play a key role in their organization's data culture.** A majority (70%) very much or completely view their role as CDO as being someone who influences their organization's data culture. CDOs are change agents, engaging with stakeholders across their organization to improve the quality and use of data.
- **CDOs play a key role in their organization's customer service experience.** This survey found that most CDOs view their role in improving data quality and making data accessible and usable as being critical to the customer service experience. CDOs use two primary methods of engagement: public presentations and making available public facing data products.
- **Challenges to CDOs' success remain.** CDOs have a clear understanding of their CDO mission and the challenges they face. Key priorities for success identified by CDOs include improved infrastructure and practices that support data governance, the need for more staff, improved data literacy, increased support from OMB with frequent check-ins and follow-ups, funding to support the CDO mission, and, finally, greater clarity about the CDO role in general and the different expectations of CDOs versus CIOs.

Recommendations, Next Steps, and Conclusion

To be successful in their roles—ultimately culminating in a robust data infrastructure where government data are an asset used for operational decision-making and evidence-based policymaking capabilities—CDOs need support in several areas. These areas identified in the survey include the following:

- **Recommendation 1 – Congress should increase CDO funding flexibilities and provide more direct resources to CDOs.** Most CDOs (83%) do not have adequate resources to fulfill their statutory responsibilities and support agency missions. CDOs need sustained, predictable, and adequate resources to implement data priorities. Congress should authorize CDOs to use additional funding flexibilities and set-aside authorities, as well as provide increased direct appropriations for CDOs to ensure they can succeed in their mission. This longer-term resourcing plan aligns with the congressional intent in establishing the CDO role through the Evidence Act, which created the position indefinitely rather than for a short-term period. OMB should also include such requests in the FY 2024 President’s Budget request to Congress.
- **Recommendation 2 – OMB should issue required guidance to CDOs to clarify responsibilities and to enable full implementation of the OPEN Government Data Act.** CDOs are operating under the general framework of the Evidence Act, the Federal Data Strategy, and their peer community of practice. CDOs need clarifying guidance regarding the data governance function in government, open data and tiered access, and better-defined roles and recognition among senior leaders in their agencies. This guidance was required by the OPEN Government Data Act, Title II of the Evidence Act, but has not yet been issued by OMB. Without this guidance, agencies will apply implementation inconsistently. Issuing the guidance would greatly improve and accelerate implementation activities for CDOs.
- **Recommendation 3 – Congress should create a federal CDO at OMB as a Senior Executive-Level Position.** While the CDO community has grown with the establishment of the CDO Council and CDOs across government, CDOs describe that the lack of guidance and support from OMB is something that could be improved. Three-in-five responding CDOs would like to see a federal CDO position created. The establishment of a single federal CDO at OMB would bolster this capability, the visibility of the CDO community, and provide a

singular coordinator within the Executive Office of the President to work alongside the component offices of the White House and other relevant councils in supporting the maturing and growing CDO community.

- **Recommendation 4 – Congress should remove the statutory sunset for the CDO Council.**

The CDO Council was established by the Evidence Act and serves as a community and valuable resource for federal CDOs. The CDO Council has demonstrated its value to the CDO community and any sunset period should be removed in statute to ensure CDOs continue to collaborate and coordinate in the years ahead.

The results from the Data Foundation’s third annual survey of federal CDOs and the CDO Council’s second annual survey show that CDOs are focused on their missions but that they could be more successful if steps are taken to support their office. This year’s Data Foundation survey showed that while the majority of CDOs are making good progress on the 2021 Federal Data Strategy Action Items, fewer reported having at least 5 of the items “in progress” or “completed” compared to last year’s survey. Agencies were granted some flexibility in prioritizing action items that are important to their agency, which could be influencing the survey results, although it is likely that some progress has been stalled by inadequate resources. CDOs are senior level professionals who are able to tackle complex problems if they are given the tools they need to be successful. It is imperative for the maturing CDO community that Congress, leaders in the Executive Branch, and external partners continue to find ways to support and encourage federal CDOs.

Appendix and Survey Methods

The findings presented in this report come from the Data Foundation's third government-wide survey of federal CDOs and the CDO Council's second survey of its members. The Data Foundation compiled an inventory of all known federal Chief Data Officers, including those recognized on federal agency websites, through social media, news reports, and Leadership Connect—a directory of federal employees. Additional insights and research conducted by report authors and Data Foundation staff supplemented the survey findings. The Data Foundation invited CDOs and designated Statistical Officials to participate by email, requesting them to complete a web-based survey in June and July of 2022. Data Foundation re-invited CDOs by email three times to those non-responding. Following the fourth invitation, Data Foundation staff contacted CDOs by phone for a non-response follow up and then again for a final non-response follow up. Additionally, the Data Foundation was granted time during one of their membership meetings to appeal to its members to complete the survey. The response rate for the survey was nearly 18%. The sample for the CDO Council survey was its membership, which consists of approximately 90 CDOs at the top-level of their agency. With a total of 38 responses, their completion rate was 43%.

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