



December 2022

CHIEF DATA OFFICER COUNCIL

Progress in Strengthening Federal Evidence-Based Policymaking

Accessible Version

GAO Highlights

Highlights of [GAO-23-105514](#), a report to congressional addressees

Why GAO Did This Study

Federal decision makers need evidence about whether federal programs and activities are achieving intended results. The Evidence Act created a framework for enhancing the federal government’s capacity to build and use evidence in decision-making.

The act includes provisions for GAO to review its implementation at various points. This report (1) assesses the extent to which the Chief Data Officer Council took actions intended to address its statutory requirements to enhance the development and use of evidence in the federal government, and (2) describes examples of actions selected agencies took to improve their use of different types of evidence.

To address these objectives, GAO reviewed documents and interviewed officials from the Chief Data Officer Council and six federal agencies: the Departments of Commerce, Energy, the Treasury, and Veterans Affairs; the General Services Administration; and the Office of Personnel Management. GAO selected these agencies to reflect a range of sizes and variability in their evidence-building capacities, as identified by GAO’s past work. GAO assessed the Council’s activities and identified actions it took related to its statutory requirements.

The Chief Data Officer Council, Office of Management and Budget, and six selected agencies had no comments on a draft of this report.

View [GAO-23-105514](#). For more information, contact Alissa H. Czyz at (202) 512-6806 or czyza@gao.gov.

December 2022

CHIEF DATA OFFICER COUNCIL

Progress in Strengthening Federal Evidence-Based Policymaking

What GAO Found

The Chief Data Officer Council—established by the Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act)—has taken a range of actions intended to strengthen federal evidence-building activities. The act established the Council as an entity within the Office of Management and Budget, and it receives administrative support from the General Services Administration. The Council’s membership includes Chief Data Officers from each agency (82 as of October 2022) and other officials from across the federal government.

GAO’s analysis found that the Council has taken one or more actions related to each of its five statutory requirements. Those requirements outline how it should contribute to federal efforts to generate and use evidence (see figure).

Chief Data Officer Council Requirements and Examples of Related Actions

Statutory Requirements for the Chief Data Officer Council

| | | | | |
|--|---|--|---|--|
| Establish government-wide best practices for the use, protection, dissemination, and generation of data. | Promote and encourage data sharing agreements between agencies. | Identify ways in which agencies can improve upon the production of evidence for use in policymaking. | Consult with the public and engage private users of government data and other stakeholders on how to improve access to federal data assets. | Identify and evaluate new technology solutions for improving the collection and use of data. |
|--|---|--|---|--|

Examples of Related Council Actions

| | | | | |
|--|--|--|---|--|
| Recommended practices to help agencies develop data inventories that make their data accessible to the public while ensuring sensitive data are protected. | Recommended creating tools and processes to make data sharing between agencies more efficient. | Released a toolkit to help agencies develop training programs that improve the skills of staff involved in evidence-building activities. | Solicited suggestions from the public to improve how (1) potential users find federal data, and (2) federal websites make those data more accessible. | Evaluated how agencies could use data visualization technologies, such as dashboards, to analyze key human resources data. |
|--|--|--|---|--|

Source: 44 U.S.C. § 3520A(b) and GAO analysis of Chief Data Officer Council actions. | [GAO-23-105514](#)

Text of Chief Data Officer Council Requirements and Examples of Related Actions

Statutory Requirements for the Chief Data Officer Council

| | | | | |
|--|---|--|---|--|
| Establish government-wide best practices for the use, protection, dissemination, and generation of data. | Promote and encourage data sharing agreements between agencies. | Identify ways in which agencies can improve upon the production of evidence for use in policymaking. | Consult with the public and engage private users of government data and other stakeholders on how to improve access to federal data assets. | Identify and evaluate new technology solutions for improving the collection and use of data. |
|--|---|--|---|--|

Examples of Related Council Actions

| | | | | |
|--|--|--|---|--|
| Recommended practices to help agencies develop data inventories that make their data accessible to the public while ensuring sensitive data are protected. | Recommended creating tools and processes to make data sharing between agencies more efficient. | Released a toolkit to help agencies develop training programs that improve the skills of staff involved in evidence-building activities. | Solicited suggestions from the public to improve how (1) potential users find federal data, and (2) federal websites make those data more accessible. | Evaluated how agencies could use data visualization technologies, such as dashboards, to analyze key human resources data. |
|--|--|--|---|--|

Source: 44 U.S.C. § 3520A(b) and GAO analysis of Chief Data Officer Council. | GAO-23-105514

During a meeting with Council officials in June 2022, GAO shared observations that the Council did not have fully formed plans and performance management activities for meeting its statutory requirements, which could limit continued progress. In response, the Council provided an updated planning document to GAO in August 2022 that identified how the Council's goals and planned activities now support each requirement, along with related performance measures. Moving forward, these tools will provide the Council with performance information it can use to assess progress and ensure it sufficiently addresses each requirement before its authorization expires in December 2024.

GAO also identified various actions that selected agencies took to improve their ability to use different types of evidence. These include several that reflect the Council's actions identified above. For example:

- To help agencies make more informed decisions, the Office of Personnel Management is developing tools—expected in summer 2023—to analyze and visualize key government-wide workforce data.
- Based on an assessment that identified gaps in the data skills of its staff, the General Services Administration began offering training courses in February 2022 tailored to its employees' roles and responsibilities.

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Abbreviations

| | |
|--------------|---|
| CDO | Chief Data Officer |
| CIO | Chief Information Officer |
| EIA | U.S. Energy Information Administration |
| Evidence Act | Foundations for Evidence-Based Policymaking Act of 2018 |
| GSA | General Services Administration |
| NOAA | National Oceanic and Atmospheric Administration |
| OES | Office of Evaluation Sciences |
| OMB | Office of Management and Budget |
| OPM | Office of Personnel Management |
| VA | Department of Veterans Affairs |

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December 15, 2022

Congressional Addressees

Federal decision makers need evidence about whether federal programs and activities are achieving intended results. Evidence can include performance information, program evaluations, statistical data, and other research and analysis. Congressional and executive branch leaders can use evidence to determine how federal programs and activities could best make progress toward national objectives, such as expanding the use of renewable energy, enhancing national security, or improving veterans' health care. Evidence can also help leaders better understand and address challenges, and set priorities to help improve implementation and performance.

Federal agencies undertake a range of activities to ensure decision-makers have the evidence they need to inform their efforts. However, our past work has found long-standing weaknesses in agencies' efforts to build and use evidence.¹ In addition, we have found agencies face challenges in ensuring they have sufficient capacity to undertake these activities.²

The Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act) created a framework for federal agencies to take a more comprehensive and integrated approach to evidence building and enhance the federal government's capacity to undertake those activities.³ For example, the Evidence Act established several new agency leadership positions, including a Chief Data Officer (CDO). The CDO's statutory responsibilities include managing the agency's data, and

¹For example, see GAO, *Evidence-Based Policymaking: Selected Agencies Coordinate Activities, but Could Enhance Collaboration*, [GAO-20-119](#) (Washington, D.C.: Dec. 4, 2019).

²For example, see GAO, *Evidence-Based Policymaking: Survey Data Identify Opportunities to Strengthen Capacity across Federal Agencies*, [GAO-21-536](#) (Washington, D.C.: July 27, 2021).

³Pub. L. No. 115-435, 132 Stat. 5529 (2019).

ensuring the agency, to the extent practicable, maximizes its use of data to advance evidence-based policymaking.⁴

The Evidence Act also created an interagency council for these officials, the CDO Council. The act outlines five requirements for the Council, which collectively provide expectations for how it should contribute to enhancing the development and use of evidence in the federal government.⁵ Specific requirements include establishing government-wide best practices for the use, protection, dissemination, and generation of data, and identifying and evaluating new technologies to improve the collection and use of data.

The Evidence Act includes provisions for us to report on different aspects of its implementation at several points in time.⁶ This report fulfills the reporting requirement in section 202(f)(1) of the Evidence Act.⁷ Specifically, this report (1) assesses the extent to which the CDO Council took actions intended to address its statutory requirements to enhance the development and use of evidence in the federal government, and (2) describes examples of actions selected agencies took to improve their use of different types of evidence.

To address the first objective, we collected and reviewed information from the Council about its completed and ongoing work.⁸ We also interviewed Council officials. We then assessed the Council's activities and identified actions it took related to its statutory requirements. For each action, we identified the requirement(s) it supported.

To address both objectives, we selected a non-generalizable sample of six federal agencies: the Departments of Commerce, Energy, the Treasury, and Veterans Affairs; the General Services Administration; and

⁴44 U.S.C. § 3520(c).

⁵44 U.S.C. § 3520A(b).

⁶See, for example, 44 U.S.C. § 3520A(e); Pub. L. No. 115-435, §§ 101(d), 202(g)(1), 132 Stat. at 5533, 5543. The Related GAO Products list at the end of this report identifies products that respond to these provisions.

⁷The Evidence Act required us to report, no later than January 2023, on whether the duties of the CDO Council have improved the use of evidence and program evaluation in the federal government. 44 U.S.C. § 3520A(e)(1).

⁸This information included reports and other products published on the Council's website at www.cdo.gov.

the Office of Personnel Management. The selected agencies varied in size, and had a range of results on questions about agency evidence-building activities and capacity in response to a survey of federal managers we conducted in 2020.⁹ We interviewed relevant officials at each agency, including its CDO, to identify examples of actions the agency took (1) that built on, or reflected, a CDO Council action; and (2) to enhance its ability to use different types of evidence (e.g., performance information, statistical data, or program evaluation). We also collected and reviewed relevant documentation from each of these agencies to supplement and corroborate information gathered through our interviews. We did not evaluate the success of these efforts—that is, whether they improved the use of evidence—in part, because the selected agencies were in the process of implementing many of the actions during our review.

We conducted this performance audit from November 2021 to December 2022 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

⁹We administered the web-based survey to a stratified random sample of 3,993 managers at 24 major federal agencies between July and December 2020. The overall weighted response rate was 56 percent of the eligible sample. The results are generalizable to the population of managers across the 24 agencies (which we refer to as government-wide) and at each agency. For additional information about our 2020 survey of federal managers, including our past products analyzing results, see *Supplemental Material: 2020 Federal Managers Survey: Results on Government Performance and Management Issues*, [GAO-21-537SP](#) (Washington, D.C.: July 27, 2021).

Background

Federal Evidence-Building Efforts

Congress and the executive branch have taken actions to strengthen the federal government’s ability to build and use different types of evidence (see sidebar for definitions).¹⁰ For example, the Government Performance and Results Act of 1993—which was significantly updated and expanded in 2011—established a framework for agencies to develop and use performance information in decision-making.¹¹ In addition, in June 2019, the Office of Management and Budget (OMB) published a comprehensive Federal Data Strategy, and subsequently released related annual action

Definitions of Evidence

The Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act)

Under the Evidence Act, **evidence** is defined as “information produced as a result of statistical activities conducted for a statistical purpose.”

Statistical purpose refers to “the description, estimation, or analysis of the characteristics of groups, without identifying the individuals or organizations that comprise such groups and includes the development, implementation, or maintenance of methods, technical or administrative procedures, or information resources that support” those actions.

Office of Management and Budget (OMB)

OMB defines **evidence** as “the available body of facts or information indicating whether a belief or proposition is true or valid.”

According to its guidance, evidence can consist of quantitative or qualitative information and may be derived from a variety of sources, including performance measurement, program evaluations, and other data, research, and analysis.

OMB’s guidance also contains the Evidence Act definitions, but states that in the context of improving organizational and agency performance, “evidence” can be viewed more broadly, in line with OMB’s definition.

Source: 44 U.S.C. § 3561 and OMB Circular No. A-11 (2022). | GAO-23-105514

¹⁰For additional information and a timeline of selected actions, see [GAO-20-119](#).

¹¹Pub. L. No. 103-62, 107 Stat. 285 (1993); Pub. L. No. 111-352, 124 Stat. 3866 (2011). For our most recent review of federal agencies’ implementation of this statutory framework, see GAO, *Government Performance Management: Key Considerations for Implementing Cross-Agency Priority Goals and Progress Addressing GAO Recommendations*, [GAO-21-104704](#) (Washington, D.C.: Sept. 28, 2021).

plans.¹² Together, these documents outlined a vision for how agencies should manage and use data, and specific steps to achieve that vision by 2030.

As part of these actions, Congress and the executive branch created leadership positions and other entities within and across agencies. For example, various agency officers have responsibilities to generate, protect, disseminate, and use different types of evidence—and enhance related capacity—within their agencies.¹³ Interagency councils comprised of these officers fulfill similar responsibilities at the government-wide level, and facilitate collaboration and information sharing with each other and across agencies.¹⁴ In addition, in recent years, several advisory entities—which leveraged expertise from within and outside the federal government—had responsibilities for identifying opportunities to further enhance federal evidence-building activities.¹⁵

Our recent work has found that federal agencies have made some progress in effectively and efficiently building and using evidence, but continue to face long-standing challenges. For example, in December 2019, we identified opportunities for several agencies to improve their

¹²See OMB, *Federal Data Strategy - A Framework for Consistency*, M-19-18 (Washington, D.C.: June 4, 2019), and *Federal Data Strategy 2021 Action Plan* (Washington, D.C.: October 22, 2021) respectively.

¹³In addition to CDOs, other agency officer positions with relevant responsibilities include, for example, Performance Improvement Officers. Their responsibilities include advising and assisting the head of the agency and the Chief Operating Officer to ensure that the mission and goals of the agency are achieved through strategic and performance planning, measurement, analysis, regular assessment of progress, and use of performance information to improve the results achieved. 31 U.S.C. § 1124(a)(2). Similarly, Statistical Officials are responsible for advising on statistical policy, techniques, and procedures. 5 U.S.C. § 314(a).

¹⁴For example, the Performance Improvement Council is responsible for, among other things, facilitating the exchange among agencies of practices that have led to performance improvements. 31 U.S.C. § 1124(b).

¹⁵For example, in March 2016, the Evidence-Based Policymaking Commission Act of 2016, established a commission to conduct a comprehensive study of the data inventory, data infrastructure, database security, and statistical protocols related to federal policymaking and the agencies responsible for maintaining that data. Pub. L. No. 114-140, 130 Stat. 317, 318 (2016). In addition, in January 2019, the Evidence Act established an advisory committee to review, analyze, and make recommendations on how to promote the use of federal data for evidence building. 5 U.S.C. § 315(a).

agency-wide processes for prioritizing what new evidence to develop.¹⁶ Subsequently, each agency took actions in 2020 to ensure their processes reflected related leading practices. In addition, since 1997, we have conducted periodic surveys of federal managers on their views of the availability and use of evidence in their agencies, and related capacity. Our most recent survey, conducted in 2020, showed mixed results across evidence-building topics:

- **Availability.** Nearly all managers (an estimated 95 percent) reported having at least one type of evidence for their programs—performance information, program evaluations, or other data, research, and analysis.¹⁷
- **Use in decision-making.** When managers had evidence, generally about half to two-thirds reported using it in different decision-making activities, such as when allocating resources.¹⁸ For performance information—the one type of evidence on which we could make comparisons to past surveys—we found that its reported use increased in 2020, both across the federal government and at a majority of agencies.¹⁹
- **Capacity.** Across the federal government, only about one-third to half of managers reported that different aspects of capacity (e.g., having staff with relevant skills) were present in their agencies. When we disaggregated results, we found that reported capacity varied widely across agencies and types of evidence.²⁰

¹⁶[GAO-20-119](#).

¹⁷[GAO-21-536](#).

¹⁸[GAO-21-536](#).

¹⁹GAO, *Evidence-Based Policymaking: Survey Results Suggest Increased Use of Performance Information across the Federal Government*, [GAO-22-103910](#) (Washington, D.C.: Nov. 3, 2021).

²⁰[GAO-21-536](#). In that report, we recommended that the Director of OMB work collaboratively with the Office of Personnel Management and relevant interagency councils to leverage our survey results to inform efforts to enhance evidence-building capacity across the federal government and at individual agencies. According to information provided by OMB staff in July 2022, they have taken actions they believe meet the intent of this recommendation. However, at that time they did not provide any further information about those actions. When we receive additional details from OMB, we will assess the extent to which their actions address our recommendation.

Agency CDOs and the CDO Council

The Evidence Act directs the head of each agency to designate a nonpolitical appointee employee as the CDO.²¹ Related OMB guidance states that, given the role CDOs play in their agencies, they should serve in central leadership positions, with visibility into relevant agency operations.²² The act outlines various CDO responsibilities, including managing the agency's data assets and ensuring the agency's data needs are met (see sidebar for definitions). In addition, the CDO is to coordinate with other agency officials who have responsibilities related to generating, protecting, disseminating, and using data. Appendix I provides information about the CDO position, placement, and reporting structure at the six agencies we selected for this review.

Definitions of Data and Data Asset

The Foundations for Evidence-Based Policymaking Act of 2018 provides the following definitions:

Data means recorded information, regardless of form or the media on which the data is recorded.

Data asset means a collection of data elements or data sets that may be grouped together.

Source: 44 U.S.C. § 3502. | GAO-23-105514

²¹44 U.S.C. § 3520(a). The Evidence Act states that this designation should be based on demonstrated training and experience in different data-related areas (such as data management and data governance). Under this section of the act, the term "agency" means any executive department, military department, government corporation, government controlled corporation, or other establishment in the executive branch of the government (including the Executive Office of the President), or any independent regulatory agency, but does not include: (1) GAO; (2) the Federal Election Commission; (3) the governments of the District of Columbia and of the territories and possessions of the United States, and their various subdivisions; or (4) government-owned contractor-operated facilities, including laboratories engaged in national defense research and production activities. 44 U.S.C. § 3502(1). We determined that this section of the act applies to agencies that have CDOs who are members of the CDO Council. These agencies determined they are subject to the act because they met the act's requirement to designate a CDO who will serve as a member of the CDO Council as required in 44 U.S.C. §§ 3520, 3520A. According to the CDO Council, 82 agencies have CDOs who are members of the Council as of October 2022.

²²The Evidence Act does not specify any organizational placement or reporting structure for the CDO. OMB's guidance further notes that a CDO should be positioned highly enough to regularly engage with other agency leadership. See OMB, *Phase 1 Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Learning Agendas, Personnel, and Planning Guidance*, M-19-23 (Washington, D.C.: July 10, 2019).

Chief Data Officer Council Requirements

- Establish government-wide best practices for the use, protection, dissemination, and generation of data
- Promote and encourage data sharing agreements between agencies
- Identify ways in which agencies can improve upon the production of evidence for use in policymaking
- Consult with the public and engage private users of government data and other stakeholders on how to improve access to federal data assets
- Identify and evaluate new technology solutions for improving the collection and use of data

Source: 44 U.S.C. § 3520A(b). | GAO-23-105514

When it was enacted in January 2019, the Evidence Act also created the CDO Council and outlined five requirements related to enhancing federal evidence-building activities (see sidebar). The act established the Council as an entity within OMB, and it receives administrative support from the General Services Administration (GSA).²³ The Council’s membership includes CDOs from each agency and other officials from across the federal government. The Evidence Act also includes a provision for the Council to terminate no later than January 2025.²⁴

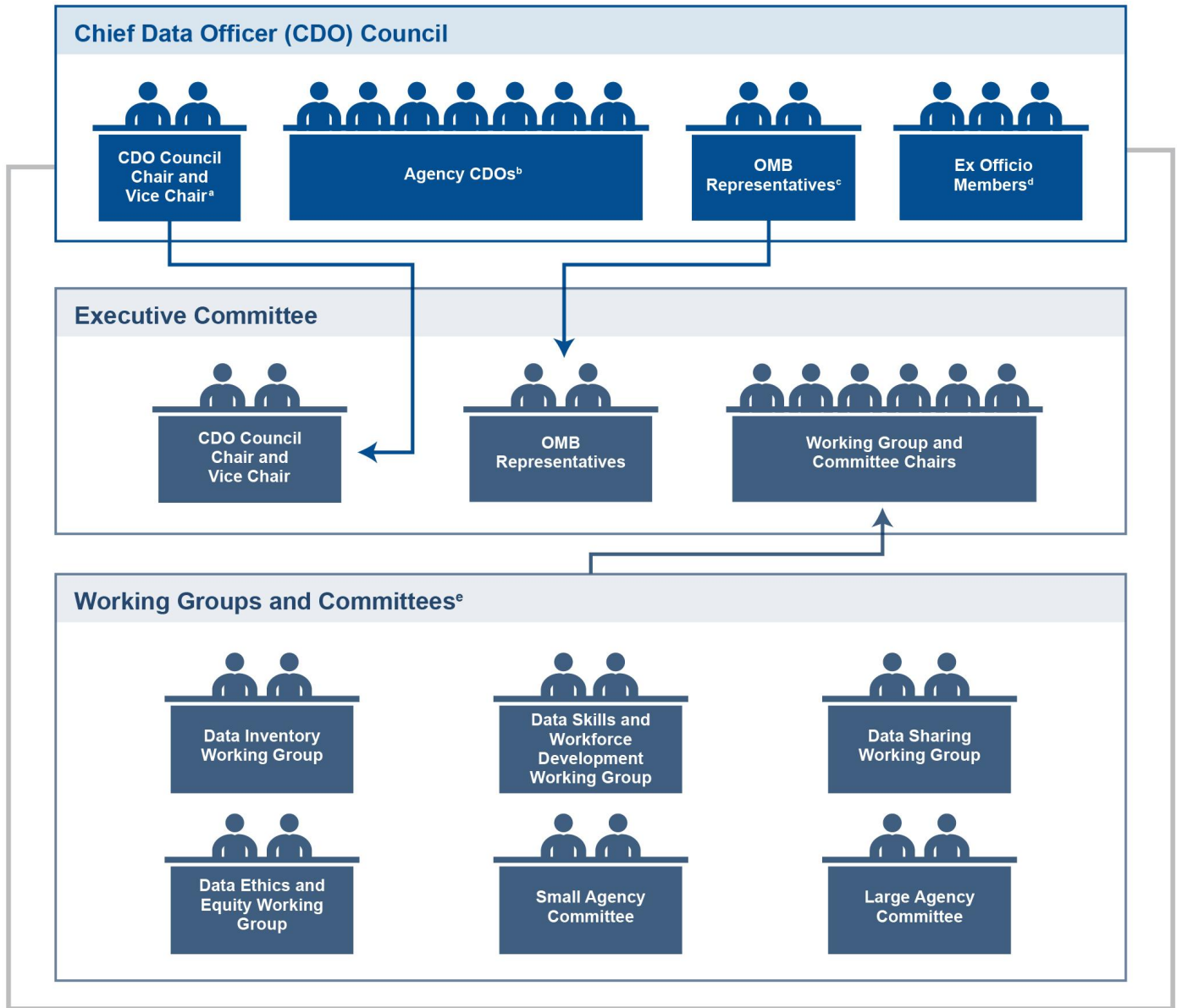
The Council’s early activities focused on standing up and organizing the Council and its operations. These activities included developing a charter that details its organization, leadership, and goals, and provided for the establishment of working groups to carry out the Council’s work.²⁵ The Council held its first meeting with all members in January 2020, and Council members approved the charter in June 2020. Figure 1 illustrates the Council’s composition and organization. Table 1 describes the purposes of its working groups and committees.

²³GSA’s Office of Shared Solutions and Performance Improvement provides support to 10 interagency federal executive councils: the Chief Acquisition Officers Council, Chief Data Officer Council, Chief Financial Officers Council, Chief Information Officers Council, Evaluation Officer Council, Federal Privacy Council, Interagency Council on Statistical Policy, Performance Improvement Council, President’s Management Council, and the Program Management Policy Council.

²⁴The Evidence Act states that the CDO Council shall terminate 2 years after we submit this report to Congress, which is due no later than January 14, 2023. 44 U.S.C. § 3520A(e). Because this report issued in December 2022, the CDO Council’s authorization will expire in December 2024.

²⁵The Council’s charter outlines three long-term goals for the Council to (1) meet its statutory requirements; (2) serve as a learning community identifying best practices and resources for Evidence Act implementation; and (3) provide leadership on the delivery of the Federal Data Strategy. In December 2020, we found that the Council had not developed mechanisms, such as performance measures, to monitor and report on progress toward meeting its goals. We recommended that the Council do so. In March 2022, Council officials provided us with documentation indicating that they had implemented our recommendation by developing performance measures for each of its goals. See GAO, *Data Governance: Agencies Made Progress in Establishing Governance, but Need to Address Key Milestones*, [GAO-21-152](#) (Washington, D.C.: Dec. 16, 2020).

Figure 1: Chief Data Officer Council Composition and Organization, as of October 2022



OMB = Office of Management and Budget

Source: GAO analysis of 44 U.S.C. § 3520A and CDO Council information. | GAO-23-105514

Text of Figure 1: Chief Data Officer Council Composition and Organization, as of October 2022

- Chief Data Officer (CDO) Council
 - CDO Council Chair and Vice Chair/a/ (arrow connects to Executive Committee)
 - Agency CDOs/b/
 - OMB Representatives/c/ (arrow connects to Executive Committee)
 - Ex Officio Members from related interagency councils/d/
- Executive Committee
 - CDO Council Chair and Vice Chair
 - OMB Representatives
 - Working Group and Committee Chairs
- Working Groups and Committees/e/ (arrow connects to Executive Committee)
 - Data Inventory Working Group
 - Data Skills and Workforce Development Working Group
 - Data Sharing
 - Data Ethics and Equity Working Group
- Small Agency Committee
- Large Agency Committee

OMB = Office of Management and Budget

Source: GAO analysis of 44 U.S.C. § 3520A and CDO Council information. | GAO-23-105514

^aThe Foundations for Evidence-Based Policymaking Act (Evidence Act) directs the Director of OMB to select the Council Chair from among the Council's members. 44 U.S.C. § 3520A(c). According to the Council's charter, this selection should take into consideration the Council's recommendation, based on an election conducted by its members. The Council Chair selects the Vice-Chair with the consent of the Executive Committee.

^bAccording to the CDO Council, 82 agencies have designated CDOs as of October 2022. The number of CDOs (and therefore Council members) has increased over time as agencies determined they were subject to this requirement. The Evidence Act requires each agency to designate a nonpolitical appointee employee as the CDO of the agency. 44 U.S.C. § 3520. Under the act, "agency" is defined as any executive department, military department, government corporation, government-controlled corporation, other establishment in the executive branch of the government, or any other independent regulatory agency, subject to limited exceptions. 44 U.S.C. § 3502(1).

^cThe two OMB representatives are the Administrator of the Office of Information and Regulatory Affairs and the Administrator of the Office of E-Government and Information Technology, or their designees.

^dThe CDO Council has nine ex officio members representing eight related groups. The Evidence Act requires the Director of OMB to appoint a representative for Chief Information Officers and Evaluation Officers. 44 U.S.C. § 3520A(c). The Council’s charter created additional ex officio members to represent Statistical Officials, Chief Freedom of Information Act Officers (two members), and Senior Agency Officials for Privacy. The Council has also added representatives for Chief Records Officers, Chief Financial Officers, and the Federal Geographic Data Committee.

^eThe Council’s charter provides for the establishment of working groups to focus on specific subjects. Working groups may include members of the CDO Council, including ex officio members, as well as subject matter experts and staff from member agencies.

Table 1: Chief Data Officer (CDO) Council Working Groups and Committees, with Related Purposes

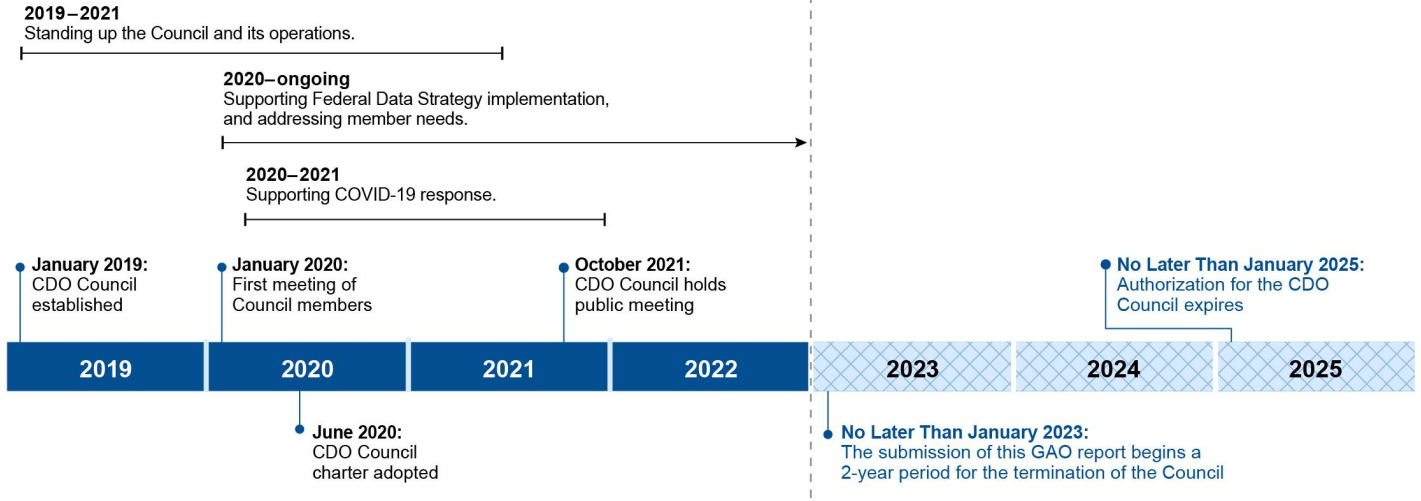
| Working Group/Committee | Purposes |
|--|--|
| Executive Committee | To provide guidance on, and oversee, all activities of the Council; identify potential priorities and matters for consideration; develop meeting agendas; and promote collaboration. |
| Small Agency Committee | To identify strategies and resources that help CDOs from small and large agencies address their unique needs and challenges. |
| Large Agency Committee | |
| Data Inventory Working Group | To identify case studies and leading practices to help agencies develop and improve inventories of their data assets. |
| Data Skills and Workforce Development Working Group | To develop training program case studies and other tools to help agencies improve the data skills of their employees. |
| Data Sharing Working Group | To identify and share leading practices to facilitate data sharing across federal agencies. |
| Data Ethics and Equity Working Group | To help the Council understand, foster, and support data ethics and data equity activities across the federal government. |

Source: GAO analysis of CDO Council information. | GAO-23-105514

Since its first meeting, the Council and its committees and working groups have met regularly, generally monthly. It has used full Council meetings to host presentations on topics of interest to members, facilitate discussions and information sharing among members, and obtain input on members’ needs and priorities. The working groups and committees generally use their meetings for the same types of activities but with a focus on areas they are responsible for addressing. Figure 2 summarizes the focus of the Council’s activities since it was established and highlights key milestones.

Figure 2: Chief Data Officer Council Key Milestones and Activities

Focus of Chief Data Officer (CDO) Council activities:



Source: GAO analysis of 44 U.S.C. § 3520A and CDO Council information. | GAO-23-105514

Text of Figure 2: Chief Data Officer Council Key Milestones and Activities

| Years | Focus of Chief of Data Officer (CD) Council activities |
|--------------|--|
| 2019-2021 | Standing up the Council and its operations. |
| 2020-ongoing | Supporting Federal Data Strategy implementation, and addressing member needs. |
| 2020-2021 | Supporting COVID-19 response. |
| 2019 | January 2019: CDO Council established |
| 2020 | January 2020: First meeting of Council members |
| 2020 | June 2020: CDO Council charter adopted |
| 2021 | October 2021: CDO Council holds public meeting |
| 2023 | No Later Than January 2023: The submission of this GAO report begins a 2-year period for the termination of the Council |
| 2025 | No Later Than January 2025: Authorization for the CDO Council expires |

Source: GAO analysis of 44 U.S.C. § 3520A and CDO Council information. | GAO-23-105514

Note: Because this report issued in December 2022, the CDO Council's authorization will expire in December 2024.

CDO Council Took Actions Related to Statutory Requirements and to Ensure Continued Progress in Strengthening Federal Evidence Building

In the relatively short period it has existed, the Council has undertaken a range of activities intended to strengthen federal evidence-building efforts. Since its first meeting in January 2020, the CDO Council has taken one or more actions related to each of its five statutory requirements. These actions have informed efforts to enhance the development and use of evidence in decision-making at selected agencies. For example:

- **Establish government-wide best practices for the use, protection, dissemination, and generation of data.** In April 2022, the Council’s Data Inventory Working Group released a report recommending practices to help agencies develop inventories of their data assets.²⁶ For example, the report states an agency’s inventory should be designed to give staff and the public a clear, comprehensive understanding of the data assets the agency possesses. That inventory should also provide information on how the public can access or request access to an asset. In May 2022, officials from the Department of Veterans Affairs (VA) told us this report and its recommended practices helped inform efforts to create a new catalog of its data assets, such as datasets and charts with information on VA programs.²⁷ For instance, they told us VA officials were working to ensure the catalog would have details that would help users understand what information is available and how they can access it.
- **Promote and encourage data sharing agreements between agencies.** In April 2022, the Council’s Data Sharing Working Group identified various data-sharing needs across the federal government

²⁶CDO Council, *Enterprise Data Inventories* (Washington, D.C.: April 2022). We did not evaluate the Council’s process nor the evidence it used to identify the practices recommended in this report.

²⁷VA’s Data Management Directive 0900 adopts the Evidence Act’s definition of data asset, further noting that it “represents a work product generated by a VA employee or VA-affiliated entity.”

and challenges agencies face in undertaking those activities.²⁸ For example, the working group found that data sharing agreements—which outline how data from one agency will be shared with, protected, and used by another agency—are generally prepared one at a time and can take months to complete. To help expedite this process, it recommended agencies build a collection of standard templates with approved language that can be used to draft data sharing agreements. Officials at the Department of Commerce created a working group in April 2020 to undertake such efforts. First, the working group compiled hundreds of data sharing agreements that bureaus within Commerce had previously created. Commerce officials told us in October 2022 that the next phase of the group’s work will involve analyzing the data sharing agreements they collected to identify common elements and develop a catalog of data sharing templates for the department. They expect that these templates could improve the efficiency and timeliness of the process by providing staff with a more-informed starting point when developing new agreements.

- **Identify ways in which agencies can improve the production of evidence for use in policymaking.** In June 2021, the Council released a toolkit to help agencies assess staff data skills and implement training programs to enhance participants’ abilities to manage, analyze, and communicate data.²⁹ For example, the toolkit lists steps agencies can take to engage training providers and design programs that address skills gaps. GSA took actions in line with those recommended by the Council. In 2020 and 2021, GSA assessed the data skills of its staff and identified gaps, such as the ability to perform statistical analyses. To address these gaps, GSA officials told us they then worked with an online training provider to develop different tracks of training courses, tailored to the participants’ needs, based on their roles and responsibilities. They made these courses available to GSA staff in February 2022.
- **Consult with the public and engage private users of government data and other stakeholders on how to improve access to federal data assets.** To help guide its work, the Council issued a public request for information in October 2021 to obtain input and

²⁸CDO Council, *Data Sharing Working Group Findings & Recommendations* (Washington, D.C.: April 2022).

²⁹CDO Council, *Data Skills Training Program Implementation Toolkit* (Washington, D.C.: June 2021).

recommendations from a range of stakeholders. It sought suggestions on available methods and tools to help enhance federal data-related activities.³⁰ For example, it asked for suggestions to improve how users locate federal data and how federal websites provide access to data. According to the Council, respondents suggested various actions, including using different communication methods to increase awareness about, and use of, federal data. Similarly, the Department of Energy's U.S. Energy Information Administration has used diverse communication methods to solicit and collect feedback from stakeholders to improve access to its data. Energy officials told us they leveraged that feedback when designing and launching a website in January 2021 to make data publicly available, and to develop new tools released in May 2022 to improve the accessibility and usability of its data.

- **Identify and evaluate new technology solutions for improving the collection and use of data.** Throughout 2021, the Council evaluated how agencies could use data visualization technologies, such as dashboards, to display and analyze data to inform decision-making. In December 2021, it recommended that the federal government develop dashboards with key human resources data and provide agencies with access to them.³¹ In response, since March 2022, the Office of Personnel Management (OPM) has been determining—in collaboration with other agencies—which data and analytical tools to make available through dashboards.³² OPM plans to release these dashboards for agency use in summer 2023. Additionally, officials from the Department of the Treasury told us that, throughout 2022, they have been developing a dashboard for the department based on lessons learned from participating in the Council's effort. Officials told us they are considering how to use this dashboard and other Treasury workforce data to inform strategic discussions around diversity, equity, inclusion, and accessibility.

³⁰86 Fed. Reg. 57147 (Oct. 14, 2021).

³¹CDO Council, *Implementing Federal-Wide HR Dashboards* (Washington, D.C.: December 2021).

³²Our past work has identified challenges OPM faces in collecting, using, and sharing data, as well as progress OPM has made in addressing some of them. For example, in June 2022 we found that OPM had taken actions to gather government-wide data related to the use of special payment authorities to recruit and retain certain employees, but that further actions were needed to improve federal payroll data. See GAO, *Priority Open Recommendations: Office of Personnel Management*, [GAO-22-105625](#) (Washington, D.C.: June 28, 2022).

Appendix II provides an inventory of the Council's actions and our assessment of how each relates to its statutory requirements. Appendix III provides fuller versions of the examples outlined above.

During a meeting with Council officials in June 2022, we shared observations that the Council did not have fully formed plans and performance management activities for meeting its statutory requirements, which could limit continued progress. Although the Council established a long-term goal in its charter to meet its statutory requirements, the near-term goals and projects it established in prior years generally focused on addressing what it identified as its most pressing priorities.³³ In response, the Council provided us with an updated planning document in August 2022 that identified how its goals and planned actions for 2022 and 2023 support each requirement. In addition, the document identified multiple performance measures and related targets for each goal.

Moving forward, these tools will provide the Council with performance information it can use to assess progress toward its goals and statutory requirements. It could also help the Council determine if any additional actions may be needed to sufficiently address its statutory requirements before its authorization expires, and further strengthen federal evidence-building activities.

Selected Agencies Took Actions to Improve Their Use of Different Types of Evidence

We identified a number of actions that selected agencies have taken to improve their use of different types of evidence in decision-making. These included actions to fulfill identified needs by building new sources of evidence and using them in decision-making, as summarized in table 2.

³³These priorities included (1) standing up the Council and its operations; (2) addressing members' needs; and (3) supporting high-priority federal initiatives, including the response to the COVID-19 pandemic and implementing the Federal Data Strategy. Despite not being a focus of its past planning processes, the Council made progress towards its statutory requirements by addressing those other priorities, as indicated by our analysis.

Table 2: Examples of Selected Agency Actions to Build and Use Certain Types of Evidence

| Evidence Type and Definition ^a | Agency Action |
|--|---|
| <p>Performance Information Quantitative or qualitative data used to track progress toward achieving agency goals or objectives, or to assess the overall performance of a program, operation, or project.</p> | <p>The Department of the Treasury developed new performance measures and milestones to assess progress toward its goals related to increasing the environmental sustainability of its operations.^b In May 2022, Treasury established priority goals to transition its vehicle fleet from gas powered to electric, and educate staff on the importance of implementing sustainability initiatives. According to Treasury officials, they collect data on bureau-level performance quarterly. Participants in department-level meetings review this performance information to assess progress toward the goals, and identify and address any challenges. Officials told us that departmental and bureau leadership used this information to inform resource allocation decisions for related initiatives when developing Treasury’s forthcoming budget request for fiscal year 2024.</p> |
| <p>Program Evaluation Individual, systematic studies using research methods to assess how well a program, operation, or project is achieving its objectives, and the reasons why it may, or may not, be performing as expected.</p> | <p>The National Oceanic and Atmospheric Administration (NOAA) within the Department of Commerce partnered with the General Services Administration’s Office of Evaluation Sciences (OES) to conduct a process evaluation. According to information from OES, the agencies undertook this evaluation in response to Executive Order 13985, <i>On Advancing Racial Equity and Support for Underserved Communities through the Federal Government</i>. The study intended to identify how NOAA can promote equitable service delivery and better engage underserved communities. For example, from November 2021 to September 2022, the two agencies evaluated the Knauss Fellowship program, which provides an opportunity for graduate students with an interest in ocean and coastal resources and policy to work with NOAA. NOAA and OES officials evaluated program outreach efforts and the application process to identify any barriers they may create for potential applicants’ participation. According to NOAA officials, they plan to use the results of the evaluation to help address those barriers and improve program outcomes.</p> |
| <p>Administrative Data Data collected by agencies, contractors, or grantees, among others, to carry out the basic operations and administration of a program.</p> | <p>Treasury also partnered with OES to use administrative data to improve its oversight of how cities and other localities are using Coronavirus State and Local Fiscal Recovery Funds provided in response to the COVID-19 pandemic. Treasury guidance requires municipalities that received this funding to register for an account on a departmental website, and use this portal to submit reports detailing how they are spending the funds. Given the number of municipalities that are required to report (approximately 27,000), and concerns over their potential lack of familiarity with the reporting requirements, Treasury officials wanted to explore using administrative data to identify ways to effectively encourage municipalities to comply with reporting requirements. From February to May 2022, Treasury worked with OES to analyze data on registration and submission rates and test various email communication strategies. Through testing and analysis, they identified approaches that increased registration and report submission rates.</p> |
| <p>Statistical Data Data collected for the purpose of describing or making estimates concerning society, the economy, or the environment, or relevant subgroups or components.</p> | <p>In January 2021, the administration established a goal to deliver at least 40 percent of the benefits from federal clean-energy investments to disadvantaged communities. In May 2021, the Department of Energy created the Energy Justice Dashboard. According to Energy officials, this effort intends to improve its use of statistical and financial data in resource allocation decisions. The dashboard combines data from Energy and other federal agencies to show the geographic distribution of Energy-related funding and how it aligns with various demographic and environmental conditions. Energy’s Office of Economic Impact and Diversity has used the dashboard to help ensure decisions about the distribution of funding contribute to the administration’s goal.</p> |

| Evidence Type and Definition ^a | Agency Action |
|--|---|
| <p>Research and Analysis Studies providing additional information and insights pertinent to a program, its objectives, the populations it serves, or challenges it faces.</p> | <p>Research from the Center for Health Equity Research and Promotion at the Department of Veterans Affairs (VA) found that accurate race and ethnicity data are essential to better understand disparities in health outcomes. However, its research also found that race and ethnicity data for VA beneficiaries are incomplete, inaccurate, and inconsistent over time and across VA sites. VA determined that these issues affect one-third of living veterans and hinder its ability to conduct comprehensive analyses by race and ethnicity. According to VA officials, based on the findings from this research, VA has undertaken efforts starting in December 2021 to further analyze these data. Through these analyses, VA has identified approaches to improve the collection and quality of these data so that it can subsequently use them to improve the delivery of benefits, care, and services for veterans.^c</p> |

Source: GAO analysis of information from selected agencies. | GAO-23-105514

^aThese are the definitions we used in our 2020 survey of federal managers. For additional information, see [GAO-21-537SP](#).

^bThis effort aligns with results from our 2020 survey of federal managers. Managers at Treasury reported statistically significant results on questions related to (1) aligning program performance measures with agency-wide goals, (2) the use of performance information in decision-making, and (3) managers' commitment to use performance information in decision-making. For additional information, see [GAO-22-103910](#).

^cThis effort aligns with VA results from our 2020 survey of federal managers. Managers at VA reported statistically significant results on questions related to (1) having the tools needed to collect, analyze, and use data, research, and analysis; and (2) management receiving training on assessing the quality of data and analyzing research and analysis to draw conclusions. For more information, see [GAO-21-536](#). For additional information on VA's work to analyze the completeness and accuracy of its race and ethnicity data, see GAO, *VA Health Care: Opportunities Exist for VA to Better Identify and Address Racial and Ethnic Disparities*, [GAO-20-83](#) (Washington, D.C.: Dec. 11, 2019).

Agencies have also taken steps to enhance their capacity to undertake evidence-building activities. For example, OPM reported that it surveyed managers and supervisors in 2021 to assess the agency's capacity to generate evidence, in response to an Evidence Act requirement.³⁴ OPM found that most respondents reported their offices did not have capacity to accomplish various evidence-building activities, including data analysis.³⁵ As one step toward addressing this issue, OPM hired several new data scientists beginning in June 2021.³⁶

Agency Comments

We provided a draft of this report to the CDO Council, OMB, and each of the six selected agencies for review and comment.

The CDO Council, OMB, and six selected agencies informed us via email that they had no substantive comments on the draft report.

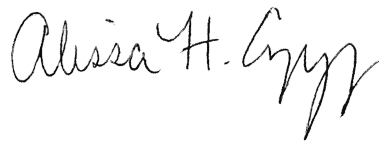
The Departments of Energy and the Treasury provided technical comments, which we have incorporated as appropriate.

³⁴The Evidence Act requires agencies to periodically assess various aspects of their evidence-building activities, including their coverage, quality, methods, effectiveness, and independence of the statistics, evaluation, research, and analysis efforts of the agency (also referred to as capacity assessments). 5 U.S.C. § 306(a)(9). OPM's capacity assessment is available at <https://www.opm.gov/about-us/strategic-plan/evidence-building/capacity-assessment> (last accessed Sept. 29, 2022).

³⁵OPM's survey results aligned with results from our 2020 survey of federal managers, which OPM also used as part of its capacity assessment. On our survey, OPM managers reported results statistically significantly below the government-wide average on questions related to the availability of skilled staff and tools needed to collect, analyze, and use data, research, and analysis.

³⁶As highlighted in appendix II, OPM previously partnered with the CDO Council and OMB to streamline processes for agencies to hire data scientists. For additional information, see [GAO-21-536](#). We have ongoing work reviewing OPM's efforts to assess and address its skills gap as part of its workforce planning and management efforts. We anticipate issuing a report on that work in early 2023.

We are sending copies of this report to appropriate congressional committees, the Director of OMB, the heads of each of the six agencies, and other interested parties. This report will also be available at no charge on the GAO website at <http://www.gao.gov>. If you or your staff have any questions about this report, please contact me at (202) 512-6806 or czyza@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of our report. Key contributors to this report are listed in appendix IV.

A handwritten signature in black ink that reads "Alissa H. Czyz". The signature is written in a cursive, flowing style.

Alissa H. Czyz
Acting Director, Strategic Issues

List of Congressional Addressees

The Honorable Gary C. Peters
Chairman
The Honorable Rob Portman
Ranking Member
Committee on Homeland Security and Governmental Affairs
United States Senate

The Honorable Jon Ossoff
Chairman
The Honorable Ron Johnson
Ranking Member
Permanent Subcommittee on Investigations
Committee on Homeland Security and Governmental Affairs
United States Senate

The Honorable Kyrsten Sinema
Chair
The Honorable James Lankford
Ranking Member
Subcommittee on Government Operations and Border Management
Committee on Homeland Security and Governmental Affairs
United States Senate

The Honorable Carolyn B. Maloney
Chairwoman
The Honorable James Comer
Ranking Member
Committee on Oversight and Reform
House of Representatives

Letter

The Honorable Gerald E. Connolly
Chairman
The Honorable Jody Hice
Ranking Member
Subcommittee on Government Operations
Committee on Oversight and Reform
House of Representatives

The Honorable Chris Pappas
Chairman
Subcommittee on Oversight and Investigations
Committee on Veterans' Affairs
House of Representatives

Appendix I: Chief Data Officer Position and Placement at Selected Agencies

The Foundations for Evidence-Based Policymaking Act of 2018 does not specify a reporting structure or organizational placement for the Chief Data Officer (CDO) in federal agencies.¹ We found that CDO placement and reporting structure varied at the six selected agencies, based on each agency’s needs. As described in table 3, two selected agencies placed their CDOs in offices led by the Chief Information Officer. The other four agencies placed them in offices with planning and data management responsibilities.

Table 3: Chief Data Officer (CDO) Position and Placement at Selected Agencies

| Agency | Title(s) | Located in the agency’s... | Reports to the... |
|--------------------------------------|---|--|--|
| Department of Energy | CDO | Office of the Chief Information Officer (CIO) | CIO |
| General Services Administration | CDO | Office of Information Technology | CIO |
| Department of the Treasury | CDO | Office of the Assistant Secretary for Management, which is responsible for internal departmental management, planning, and information technology. | Assistant Secretary for Management |
| Department of Veterans Affairs | CDO and Executive Director for Data Governance and Analytics | Office of Enterprise Integration, which is responsible for leading data management and analysis efforts. | Assistant Secretary for Enterprise Integration |
| Department of Commerce | CDO | Office of the Under Secretary for Economic Affairs, which leads Commerce’s programs on data policy and management. | Under Secretary for Economic Affairs |
| Office of Personnel Management (OPM) | CDO and Deputy Director for Human Capital Data Management and Modernization | Human Capital Data Management and Modernization Directorate, which is responsible for OPM’s data management and analysis efforts. | Director for Human Capital Data Management and Modernization |

Source: GAO analysis of information from selected agencies. | GAO-23-105514

¹44 U.S.C. § 3520.

Appendix II: Chief Data Officer Council Actions Related to Its Statutory Requirements

Table 4: Chief Data Officer (CDO) Council Actions Related to Its Statutory Requirements, as of October 2022

| Statutory Requirements | | | | |
|---|---|---|--|--|
| Identify ways in which agencies can improve the production of evidence for use in policymaking | Establish government-wide best practices for the use, protection, dissemination, and generation of data | Identify and evaluate new technology solutions for improving the collection and use of data | Promote and encourage data sharing agreements between agencies | Consult with the public and engage private users of government data and other stakeholders on how to improve access to federal data assets |
| Related Actions | | | | |
| <ul style="list-style-type: none"> Created a human resources dashboard to examine data visualization and access issues, and how it could be used to facilitate analysis and discussions between agencies on human resources best practices. Released a Data Skills Training Program Implementation Toolkit to help agencies implement programs to improve employees' abilities to collect, analyze, and use data. | | <ul style="list-style-type: none"> Created a Data Sharing Working Group and surveyed members about challenges and constraints with sharing data. | | <ul style="list-style-type: none"> Held a public meeting in October 2021 to report on the Council and its activities. |

**Appendix II: Chief Data Officer Council Actions
Related to Its Statutory Requirements**

- | | | | | |
|---|---|---|--|--|
| <ul style="list-style-type: none"> • Reported on integrating data on wildland fire fuels to increase transparency and coordination across the wildfire management community. • Partnered with the Office of Management and Budget and the Office of Personnel Management to streamline processes for agencies to hire data scientists. • Identified opportunities to improve access to COVID-19 data, models, and other tools agencies could use to inform workforce management decisions. | <ul style="list-style-type: none"> • Created a Data Inventory Working Group that released a report with recommendations to help agencies better protect and share data when developing inventories. • Released a report with case studies and best practices for agency data skills training programs. • Developed a CDO Playbook with key activities and practices CDOs should follow to improve agency efforts to generate, protect, and share data. | <ul style="list-style-type: none"> • Tested how machine-learning technology can make analysis of public comments more efficient. | <ul style="list-style-type: none"> • Released recommendations for improving methods for accessing and sharing data within and between agencies. • Conducted a pilot project to test data sharing recommendations and develop a case study illustrating best practices. | <ul style="list-style-type: none"> • Issued a Request for Information on various topics, and received submissions from stakeholders with suggestions to improve access to federal data. • Established a website to share relevant information with the public. |
|---|---|---|--|--|

| Statutory Requirements | | | | |
|---|--|--|---|---|
| Identify ways in which agencies can improve the production of evidence for use in policymaking | Establish government-wide best practices for the use, protection, dissemination, and generation of data | Identify and evaluate new technology solutions for improving the collection and use of data | Promote and encourage data sharing agreements between agencies | Consult with the public and engage private users of government data and other stakeholders on how to improve access to federal data assets |

**Appendix II: Chief Data Officer Council Actions
Related to Its Statutory Requirements**

Related Actions (Continued)

- Developed a guide and dashboards to help agencies collect and analyze data for decisions about workforce management during the pandemic.
- Partnered with the Performance Improvement Council to conduct a data-training workshop.
- Added 20 members from data-related positions to a fellowship program that offers professional development opportunities for federal employees.
- Held discussion sessions where CDOs shared their perspectives on challenges, opportunities, and successful practices for identifying data needs and data sharing, among other topics.
- Created an awards program to recognize federal employees that demonstrate innovative data practices.

Crosscutting Actions/Support

- Held regular CDO Council meetings to promote sharing of information, lessons, and leading practices across the CDO community.
- Surveyed agency CDOs to identify priorities and common challenges.
- Engaged with other interagency councils to identify opportunities for collaboration.

Source: 44 U.S.C. § 3520A(b) and GAO analysis of information from the Chief Data Officer Council. | GAO-23-105514

Note: The table presents actions taken by the CDO Council that relate to its statutory requirements. It is not a complete inventory of all the Council's activities.

Appendix III: Examples of Evidence-Building Actions Taken by the Chief Data Officer Council and Selected Agencies

We identified various actions that (1) the Chief Data Officer (CDO) Council has taken related to its five statutory requirements, and (2) the six selected agencies took that built on, or reflected, those Council actions. Table 5 provides an example related to each statutory requirement.

Table 5: Examples of Evidence-Building Actions Taken by the Chief Data Officer (CDO) Council and Selected Agencies, by Related Council Statutory Requirement

| Requirement | Related CDO Council Action | Related Agency Action |
|---|--|--|
| Establish best practices for the use, protection, dissemination, and generation of data | Through several of its reports and resources, the Council identified practices and recommendations for agencies related to the generation, dissemination, and protection of data. For example, in April 2022, the Council released a report with recommendations to help agencies develop data inventories, which allow staff and the public to efficiently find and access agencies' data. ^a Recommended actions include engaging users to understand and address their data needs, and determining when data contain sensitive information and require special handling or other protections. | Since October 2021, the Department of Veterans Affairs (VA) has been developing a new inventory cataloging its data assets. According to VA officials, in line with the Council's April 2022 recommendations, their goal is to ensure the new inventory covers all of VA's data assets and provides users with the information they need to understand what data are available and how to access them. These efforts are designed to address shortcomings users identified with VA's prior data inventory. |

**Appendix III: Examples of Evidence-Building
Actions Taken by the Chief Data Officer
Council and Selected Agencies**

| Requirement | Related CDO Council Action | Related Agency Action |
|--|--|---|
| Promote and encourage data sharing agreements between agencies | The Council established a Data Sharing Working Group in October 2020 to better understand the data-sharing needs and challenges of federal agencies. The working group reviewed relevant practices across agencies. In an April 2022 report, it identified various data-sharing needs across the federal government and challenges agencies face in sharing their data. ^b The report included several recommendations to make these processes more efficient. For example, the working group recommended creating tools and expedited processes to establish data sharing agreements between agencies. It also recommended developing standard agency templates for data sharing agreements, and improving awareness about which agency data are available for sharing. | In April 2020, the Department of Commerce created a working group that compiled data sharing agreements from its bureaus and created an inventory of these agreements. According to Commerce officials involved in this effort, they gained insights into how the diversity of data types and agreements can make it challenging to create expedited data sharing processes. These officials were subsequently involved in the Council's Data Sharing Working Group. They shared their insights and experiences while that group was developing its recommendations for improving federal data sharing. Subsequently, Commerce officials told us in October 2022 that they planned to have the department's working group analyze the previously collected agreements to identify common elements and develop a catalog of templates for Commerce. They expect that these templates could improve efficiency and timeliness by providing a more-informed starting point for staff when they develop any new agreements. |
| Identify ways to improve the production of evidence for use in policymaking | The Federal Data Strategy, released in June 2019 by the Office of Management and Budget, directed agencies to invest in training to enhance their staff's ability to manage and analyze data. To help agencies respond to this direction the Council developed a Data Skills Training Program Implementation Toolkit, which it made publicly available in June 2021. ^c The toolkit provides guidance for agencies to assess the data skills their staff possess, and implement training programs to enhance those skills when necessary. For example, the toolkit lists steps agencies can take to design training programs to strengthen participants' abilities to manage, analyze, and communicate data. | In 2020 and 2021, the General Services Administration (GSA) assessed the data skills of its staff and identified gaps, such as the ability to perform statistical analyses. To address these gaps, GSA officials told us they then worked with an online training provider through February 2022 to develop different tracks of training courses for GSA employees to follow depending on their roles, responsibilities, and needs. This approach intends to help participants learn about tools and methods that are most relevant for them. Following this training, GSA asks participants to complete a project where they apply what they learned, using their new skills to improve how data are managed and used by their program or office. |
| Consult with the public and engage private users of government data and other stakeholders on how to improve access to federal data assets | In October 2021, the Council issued a request for information from the public. ^d The request asked respondents to suggest ways to improve how users locate federal data and how federal websites could better support data access. According to the Council, it received responses from a range of stakeholders, including those in the private sector, civil society organizations, and academia. Respondents suggested various actions, including consulting with state, local, and tribal partners to ensure they can access timely and reliable federal data, and using different communication methods to increase awareness about, and use of, federal data. | In line with the suggestions the Council received, the U.S. Energy Information Administration (EIA) within the Department of Energy has used diverse communication methods to solicit and collect feedback from stakeholders to improve access to its data. For example, Energy officials told us they used comments from data users submitted through its websites, as well as surveys, to create a website called the U.S. Energy Atlas. The website, which launched in January 2021, makes data available in a range of formats, and allows users to sort and visualize the data in different ways. In May 2022, EIA made additional tools available on its website to improve the accessibility and usability of its data. Those tools incorporated features that users had requested. |

**Appendix III: Examples of Evidence-Building
Actions Taken by the Chief Data Officer
Council and Selected Agencies**

| Requirement | Related CDO Council Action | Related Agency Action |
|---|---|--|
| Identify and evaluate new technology solutions for improving the collection and use of data | Throughout 2021, the Council evaluated how agencies could use data visualization technologies, such as dashboards, to display and analyze data to inform decision-making. In particular, the Council focused on determining if human resources data from multiple agencies could be compiled into dashboards covering a small number of key metrics. Based on this work, the Council recommended in December 2021 that the federal government provide agencies with access to such dashboards. ^e It further recommended that a lead government agency, such as the Office of Personnel Management, help agencies analyze these data to improve their use in decision-making. The data in these dashboards would allow each agency to compare itself to other agencies with similar sizes and missions. Agencies could also use the resulting data visualizations and analyses to identify insights and potential improvements. | The Office of Personnel Management (OPM) and Department of the Treasury have both taken actions to build on the Council’s dashboard project. Since March 2022, OPM has collaborated with other federal agencies to determine what data and analytical tools to make available in the dashboards recommended by the Council. ^f OPM officials told us they plan to release the dashboards for use by other agencies in summer 2023. Similarly, Treasury officials told us that throughout 2022 they have developed a dashboard with data on the diversity of Treasury’s workforce and contractors. As part of this effort, they have applied lessons they learned from participating in the Council’s project. Officials told us they are considering how to use this dashboard and other Treasury workforce data to inform strategic discussions around diversity, equity, inclusion, and accessibility. |

Source: GAO analysis of information from the CDO Council and selected agencies. | GAO-23-105514

^aCDO Council, *Enterprise Data Inventories* (Washington, D.C.: April 2022).

^bCDO Council, *Data Sharing Working Group Findings & Recommendations* (Washington, D.C.: April 2022).

^cCDO Council, *Data Skills Training Program Implementation Toolkit* (Washington, D.C.: June 2021).

^d86 Fed. Reg. 57147 (Oct. 14, 2021).

^eCDO Council, *Implementing Federal-Wide HR Dashboards* (Washington, D.C.: December 2021).

^fOur past work has previously identified challenges OPM faces in collecting, using, and sharing data, as well as progress OPM has made in addressing some of them. For example, in June 2022 we found that OPM had taken actions to gather government-wide data related to the use of special payment authorities to recruit and retain certain employees, but that further actions were needed to improve federal payroll data. See GAO, *Priority Open Recommendations: Office of Personnel Management*, [GAO-22-105625](#) (Washington, D.C.: June 28, 2022).

Appendix IV: GAO Contact and Staff Acknowledgments

GAO Contact

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Staff Acknowledgments

In addition to the above contact, Benjamin T. Licht (Assistant Director), Adam Miles (Analyst-in-Charge), Michael Bechetti, Jacqueline Chapin, Kathleen Drennan, Ivan Hernandez, Karin Fangman, Samantha Lalisian, Andrew Olson, and Steven Putansu made significant contributions to this report.

Related GAO Products

Evidence-Based Policymaking: Survey Results Suggest Increased Use of Performance Information across the Federal Government.

[GAO-22-103910](#). Washington, D.C.: November 3, 2021.

Supplemental Material: 2020 Federal Managers Survey: Results on Government Performance and Management Issues. [GAO-21-537SP](#).

Washington, D.C.: July 27, 2021.

Evidence-Based Policymaking: Survey Data Identify Opportunities to Strengthen Capacity across Federal Agencies. [GAO-21-536](#). Washington, D.C.: July 27, 2021.

Data Governance: Agencies Made Progress in Establishing Governance, but Need to Address Key Milestones. [GAO-21-152](#). Washington, D.C.: December 16, 2020.

Open Data: Agencies Need Guidance to Establish Comprehensive Data Inventories; Information on Their Progress is Limited, [GAO-21-29](#).

Washington, D.C.: October 8, 2020.

Evidence-Based Policymaking: Selected Agencies Coordinate Activities, but Could Enhance Collaboration. [GAO-20-119](#). Washington, D.C.: December 4, 2019.

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