



Data Sharing Working Group

FINDINGS & RECOMMENDATIONS

This report was developed by the Chief Data Officer Council's Data Sharing Working Group to help the council understand the varied data-sharing needs and challenges of all agencies across the Federal Government.





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Contributing Agencies:

- U.S. Agency for International Development
- U.S. Census Bureau
- U.S. Citizenship and Immigration Services
- U.S. Consumer Financial Protection Bureau
- U.S. Consumer Product Safety Commission
- U.S. Department of Agriculture
- U.S. Department of Commerce: Bureau of Industry and Security
- U.S. Department of Defense
- U.S. Department of Education
- U.S. Department of Energy: National Nuclear Security Administration
- U.S. Department of Health and Human Services: Health Resources and Services Administration
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1. Introduction

The Chief Data Officer Council (CDOC) established a Data Sharing Working Group (DSWG) to help the council understand the varied data-sharing needs and challenges of all agencies across the Federal Government. The DSWG reviewed data-sharing across federal agencies and developed a set of recommendations for improving the methods to access and share data within and between agencies. This report presents the findings of the DSWG's review and provides recommendations to the CDO Council Executive Committee.

2. Purpose

The DSWG focused on the following activities:

- Creating a comprehensive list of data-sharing purposes and use cases at federal agencies that includes:
 - Purposes within the Federal Government and across levels of government; and
 - Broad-based sharing and tiered sharing practices.
- Documenting data-sharing challenges, including:
 - Legal challenges
 - Policy challenges
 - Technical challenges (e.g., preserving semantics across boundaries)
 - Measurement challenges (e.g., how to measure value of sharing)
- Identifying solutions and recommended actions that would make sharing easier with strong privacy protections, including:
 - Legislative and policy changes
 - Best or promising practices
 - Input to Advisory Committee on data for evidence building

3. Findings

In conducting its analysis, the DSWG followed the high-level process below (refer to Figure 1) to:

- 1) Document the current state of data-sharing across federal agencies (From),
- 2) Articulate where the group would like to see data-sharing go in the future (To), and
- 3) Determine the actions needed by the group to get federal agencies there.

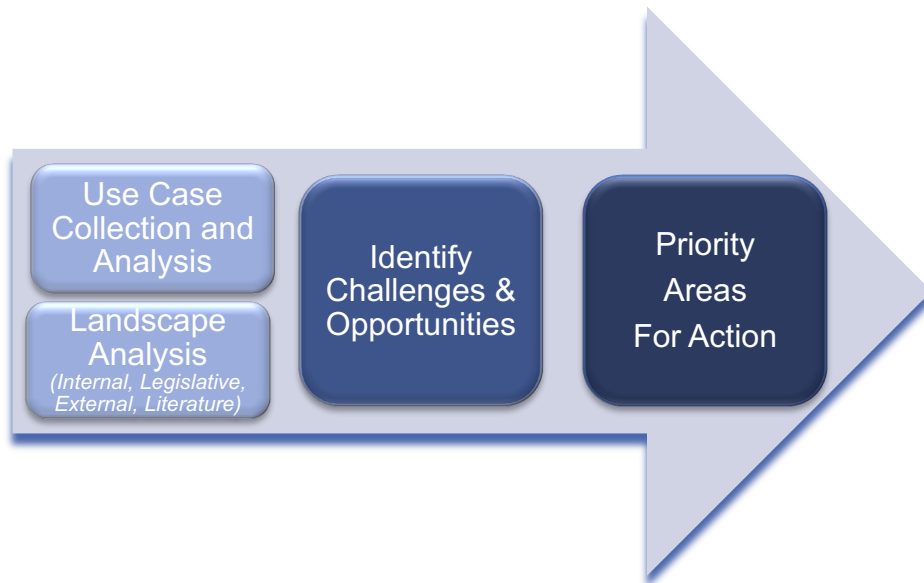


Figure 1 - DSWG High-Level Process

The result revealed several key overarching themes, including the need for expedited data agreements, improved data awareness, and improved data trustworthiness. Below is a summary of the findings by theme. Refer to the appendices attached to this document for additional information on the DSWG’s process and results.

Expedited Data Agreements

The DSWG found a strong consensus that a standard process to expedite data agreements is needed. Currently, agreements are prepared and executed one at a time and the approval process from start to finish is incredibly slow. Standing in the way of efficiency is a myriad of complex legal, oversight, policy and compliance regimes that often conflict. Cultural obstacles often impede the process of finalizing agreements, such as the need to convince outside entities to “play ball” after you have proved your value to them.

Standardized methods for sharing high-value data and templates for data requests across federal agencies are needed to streamline the process along with information technology (IT) solutions to enable data-sharing such as a data-sharing agreement builder or templating tool.

Finally, the DSWG recommended leveraging the CDOC to facilitate data-sharing agreement conversations to overcome barriers to sharing across agencies. The DSWG found that agencies are reluctant to share their data, often citing a “What’s in it for me?” argument. Education of agency leadership across the federal government is needed on the value of data and the importance of sharing for cross-agency mission enablement.

Improved Data Awareness

The DSWG identified several obstacles to data awareness improvements. First and foremost, agencies need to be clearer on their position regarding data-sharing. Personal Identifiable Information (PII) may limit an agency’s ability to share and access data. Not all agencies have information that is available for public use. Often, an agency’s aversion to risk, especially concerning the interpretation of statute supporting data-sharing, leads to a historical posture of inaction.

Surfacing best practices and IT infrastructure “cookbooks” will give agencies in the early stages of establishing data-sharing infrastructures a better starting point to building their infrastructure. Also, having the CDO more involved in these early stages will enhance the proactive design of data infrastructures while ensuring that the data is more useful. Technology can also play an important role in improving data cataloging and classification to facilitate access, and streamlining the electronic data-sharing agreements promise.

Improved Data Trustworthiness

The final finding of the DSWG centered around improving data trustworthiness. Issues such as keeping data inventories current and encouraging programs to disclose potential problems with their data emerged as common challenges across agencies. To ensure adherence to data standards and practices, the DSWG identified a need to perform periodic quality control reviews and establish a platform for data access/sharing to avoid having multiple “copies” of data.

For additional information on DSWG’s high-level findings refer to the appendices at the back of this document.

4. Recommendations

The DSWG recommends the following to address the challenges identified in data-sharing across federal agencies:

- Expedited Data Agreements
- Improved Data Awareness
- Improved Data Trustworthiness

Recommendation 1 – Expedited Agreement Process

The first area of improvement identified by the DSWG is the need for an expedited data use agreement process. One of the key requirements in sharing data across the federal government is the establishment of data use agreements (DUAs) between the owner and/or data custodian and the party requesting access. DUAs often take months to complete, are sometimes never completed, and often the need for data access is long gone by the time the agreement is in place. Making the process of establishing a DUA more efficient and timelier is critical for improving data-sharing across the federal government.

1A

Build a collection of agency templates and standard clauses that can be used to draft DUAs. A large percentage of DUAs use similar formats, clauses, and/or language. Having collections of templates and standard clauses available for agencies to leverage when building their agreements would enable CDOs and data users to draft new agreements faster, using already approved language. It is important to maintain flexibility for these templates to maximize their application to various agreements.

1B

Develop an agreement building tool that can be used to draft DUAs. A large percentage of DUAs use similar formats, clauses, and/or language. Having collections of templates and standard clauses available for agencies to leverage when building

their agreements would enable CDOs and data users to draft new agreements faster, using already approved language. It is important to maintain flexibility for these templates so they can be applied in a wide variety of agreements.

1C

Implement agency-level repositories to maintain copies of existing agreements between agencies that can be:

- 1) Used as examples.
- 2) Amended to accommodate the use of other data, not originally included in the agreement.
- 3) Updated to extend other usages of the data.

As the repository's owner within a given agency, the CDO's office can expertly guide data users toward the appropriate agreement example(s) to leverage when drafting data-sharing agreements.

1D

Develop a framework for establishing agreements. A CDO-developed process describing the standard steps and proposed associated timeframes would help to guide the creation of new agreements for parties that have not done this before. This framework would help identify associated risks and potential mitigation measures and guide the decision on what data can and cannot be shared. Finally, it should include references to entities that can provide expertise and assistance for completing those agreements, such as legal, etc.

1E

Establish an advisory body for data-sharing stalemates led by and/or OMB to ensure that DUA discussions continue and remain productive. Parties whose agreements are not progressing can seek guidance from the advisory body to restart discussions.

Recommendation 2 – Improved Data Awareness

The second area for improvement identified by the DSWG is a lack of data awareness. There is insufficient visibility of the data that are available from each government agency and which of those data can be shared across the federal government.

2A

Reinforce Data.gov as the government-wide metadata inventory that can be used to discover what data sets are available across the federal government. Preferably, this inventory should use a single metadata standard. The Data Inventory Working Group recommended that the Data Catalog Vocabulary (DCAT) v.2 is a logical starting point. Agencies should leverage this capability and ensure that all their metadata is uploaded into Data.gov to increase data awareness across the federal government.

2B

Create and adopt a data classification mechanism that will help with the identification of data that can be shared and in addition can mark data with existing security classification schemes like Controlled Unclassified Information (CUI) and Federal Information Processing Standard Publication 199 (FIPS 199). Creating

additional classification categories could shorten the time needed to make a data-sharing decision or accelerate data-sharing within specific classification groups in the federal government.

2C

Draft a data-sharing infrastructure playbook that will guide federal government agencies as they start to build data-sharing infrastructures. Since the data-sharing maturity is at various levels across the federal government, drafting such a playbook will accelerate the data-sharing capabilities and culture for agencies that are at the early stages. This playbook can include lessons learned, success stories, and pitfalls from agencies that already implemented similar infrastructures.

2D

Create a recognition mechanism to incentivize sharing. The inherent incentive in a data-sharing transaction is aligned with the receiving party. The original owners of the data often have no incentive and hence no interest in sharing some of their capital. Establish a recognition mechanism for organizations that contribute to the improvement of services provided by the federal government through sharing their data sets. This recognition does not have to be associated with material benefits, such as funding, but at the very least award the organizations that are willing and do share data.

Recommendation 3 – Improved Data Trustworthiness

The third area for improvement identified by the DSWG is related to improving data trustworthiness. There is no standard application of methods for collecting data or evaluating data quality.

3A

Perform periodic data quality control reviews. Agencies should develop standardized data quality measures and assessment techniques that are easily understood and can be adopted across federal government agencies. Additionally, agencies should conduct periodic data assessments to validate syntax and factual correctness. As an example, one potential measure of data quality could be a rating system from the data consumers on data accuracy and trustworthiness.

3B

Perform pre and post-data quality reviews to ensure data standards and practices are followed. Agencies should follow the Information Quality Act and subsequent OMB guidelines and other sources such as the Federal Committee on Statistical Methodology (FCSM) Framework for Data Quality to ensure and maximize the data quality, objectivity, utility, and integrity of information. Agencies can further data quality across the federal government by ensuring rigorous data collection practices before sharing the data with other government agencies.

Recommendation 4 – Establish the OCDO as the central source of information

In addition to the three high-level recommendation categories, several general recommendations for agency CDO's emerged which would benefit data-sharing.

4A

OCDO will serve as the main point of contact for all information related to data-sharing. Data users within and across agencies have various levels of expertise and the OCDO should be a resource to guide them in the right direction. The expertise housed within the OCDO can help to clear barriers to data-sharing (e.g., knowing what data is available, who to speak to) and guide data users through the process by recommending previous agreements, templates, and standard clauses that can be leveraged. By serving as a consistent place to go to for data-sharing information, the OCDO can create the ideal environment within their agency for data-sharing to thrive.

4B

CDOs should establish data-sharing centers of excellence within agencies. Agencies should develop standardized data quality measures and assessment techniques that are easily understood and can be adopted across federal government agencies. Periodic data assessments that would validate syntax and actual correctness should be conducted. As an example, one potential measure of data quality could be a rating system from the data consumers on data accuracy and trustworthiness.

5. Next Steps

The DSWG was established to help CDOC understand the landscape of data-sharing needs and challenges across Federal agencies. This report's findings and recommendations of the DSWG are based upon their review of data-sharing across federal agencies and recommendations for improving data

access and sharing within and between agencies. With these improvements in mind, the DSWG recommends the following next steps:

- Together the EO, CDO, and SO of the agency/department should advocate to change the narrative surrounding data-sharing to emphasize its many benefits. Demonstrating that data-sharing can be done responsibly (e.g., Privacy-enhancing, National Secure Data Service) will go a long way in assisting agencies with coordinating across the federal data infrastructure and informing evidence-based policy making. This is a great opportunity to have all three councils work towards a successful National Secure Data Service (NSDS).
- The Interagency Council on Statistical Policy (ICSP) needs to partner with the CDO Council in its endeavor to surface best practices and IT infrastructure “cookbooks”. Consulting with Statistical Officials will ensure that this opportunity is seen as a joint project that encompasses all data (including restricted data) and will provide one-voice for the agency/department.
- The CDO should leverage the Statistical Official within their agency/unit in the early stages to enhance the proactive design of data infrastructures while also ensuring that the data is more useful in the end. The Stat agencies have experience sharing restricted data and working through data agreements and may have methodologies to assist the CDO.
- Utilizing the Federal Committee on Statistical Methodology’s (FCSM’s) Data Quality Framework and the Data Protection Toolkit (DPT) in combination with best practices from the statistical official should assist the agency/department with disclosing issues with their data.

Appendix A: Literature Review

In recent years much has happened to aid in the increase of data-sharing culminating with the Report of the Commission on Evidence-Based Policymaking (Sept 2017)¹ resulting in the passage of the Evidence Act of 2018. The report included twenty-two recommendations to improve secure data access for evidence building activities involving population-level government files. These recommendations encourage:

- 1) Systematic Planning for Evidence-Building.
- 2) High Quality Data Governance.
- 3) Coordinated Support for Privacy-Protected Data-sharing.

The Federal Committee on Statistical Methodology (FCSM) produced a report title “Profiles in Success of Statistical Uses of Administrative Data”, April 2009.² This report examined seven successful data-sharing arrangements between various federal, state, and academic entities. The Committee identified six core challenges 1) project definition and development (i.e., when two or more agencies that are potential partners first begin to define a project that is desirable and feasible); 2) financial challenges; 3) legal challenges; 4) technical challenges; 5) managing internal processes; and 6) managing interagency relations. The report’s findings identified four elements of success, 1) vision and support by agency leadership; 2) narrow but flexible goals; 3) infrastructure; and 4) mutual interest.

Following the FCSM report the Office of Management and Budget (OMB) released several memoranda related to data-sharing. A few of them are:

1. [Open Data Policy – Managing Information as an Asset. OMB Memorandum M-13-13.](#)³ This 2013 memo from OMB on Open Data Policy requires agencies to collect or create information in a way that supports downstream information processing and dissemination activities. One of many early memos on transparency and open government.
2. [Guidance for Providing and Using Administrative Data for Statistical Purpose. OMB Memorandum M-14-06.](#)⁴ When data are used for statistical purposes, it can be used by statistical agencies to generate new reports or to improve the accuracy of existing reports. Generally, this guidance has been enacted into law in the evidence act Title 3 section 3581 entitled “Presumption of Accessibility for Statistical Agencies and Units” which says, “Unless prohibited by a statute that leaves no discretion, agency heads shall make any data asset available to statistical agencies covered by CIPSEA to the extent practicable for the purpose of developing evidence.”
3. [Sharing Data While Protecting Privacy. OMB Memorandum M-11-02](#) This memorandum talks about balancing the need to share data and protecting privacy. It lists several benefits of sharing and encourages agencies to share within the laws, regulations, and policies.

Individual agencies have successfully explored and shared data. Some papers and documentation from these are:

1. Website for [Resources for Researchers using Institute of Education Science Data](#)⁶ This site has a lot of good information for researchers interested in accessing education data. This would be good thing for all agencies to have. The researchers on this site primarily refers to those who have received grants to do research and how they need to manage their data and make it available to other to review. They provide an FAQ about providing public access to data

2. https://www.nlm.nih.gov/NIHbmic/nih_data_sharing_policies.html - NIH Data Sharing Policies
3. <https://www2.ed.gov/programs/homeless/ehcy-interagency-data-disclosure.pdf> - Department of Education Data Disclosure Tip Sheet for inter-agency data-sharing
4. [Improving Information-Sharing Across Law Enforcement: Why Can't We Know?](#) ⁷ Details key findings to improve data-sharing across law enforcement agencies.
5. <https://www.nist.gov/system/files/documents/2019/10/01/nist-special-publication-1243-obstacles-to-data-sharing-in-public-safety.pdf> - NIST document on Obstacles to Data Sharing in Public Safety Applications

In public sector interactions outside of the federal government, individual federal agencies have published guidance and informational documents on data-sharing with state and local partners. The National Association of State Chief Information Officers (NASCIO) has also published formal documents promoting cross-state data-sharing.

1. https://www.nascio.org/wp-content/uploads/2019/11/2017_NASCIO_Data_Sharing_Publication_Final.pdf - NASCIO promoting data-sharing between states
2. <https://www.acf.hhs.gov/opre/project/acf-interopability-initiative> - Administration for Children and Families (ACF) facilitating interoperability between federal and states.

References

1. <https://www2.census.gov/adrm/fesac/2017-12-15/Abraham-CEP-final-report.pdf> The Promise of Evidence-Based Policymaking: Report of the Commission on Evidence-Based Policymaking
2. <https://nces.ed.gov/FCSM/pdf/StatisticalUsesofARData.pdf> This FCSM report: Profiles in Success of Statistical Uses of Administrative Data, April 2009
3. [Open Data Policy – Managing Information as an Asset. OMB Memorandum M-13-13](#)
4. [Guidance for Providing and Using Administrative Data for Statistical Purpose. OMB Memorandum M-14-06.](#)
5. [Sharing Data While Protecting Privacy. OMB Memorandum M-11-02](#)
6. Resources for Researchers https://ies.ed.gov/funding/datasharing_implementation.asp
7. [Improving Information-Sharing Across Law Enforcement: Why Can't We Know? \(ojp.gov\)](#)

Appendix B: Use Cases

In addition to the literature review, the Working Group surveyed members of the Chief Data Officers Council for use cases to identify common themes and challenges related to data-sharing.

In all, the group reviewed 23 use cases. Most of the cases were federal-to-federal partnerships (17), others were state-to-federal (4), federal-to-international government (1), and federal-to-private organization partnerships (1), suggesting a vast universe of data-sharing possibilities. Despite encountering challenges, nearly all respondents reported improved mission delivery, faster processing times, reduction of costs, better research outcomes, greater program visibility, and other positive results.

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Four common themes emerged across these use cases that might prove instructive for other agencies seeking to emulate their success. They are as follows:

- 1. It is important to leverage common, mature, and user-friendly data-sharing tools and technologies.*

Many of the respondents stressed the need to use “tried and true” capabilities that simplify data operations and evidence-based decision making, rather than introducing added complexities. In other words, capabilities that facilitate data-sharing, not impede it. For example, U.S. Customs and Border Protection (CBP) and U.S. Agency for International Development (USAID) noted the value of using standard analytical products and data visualizations such as maps and dashboards for decision making as part of the Government-wide Root Causes Strategy for Central America. In another use case, the General Services Administration (GSA) and the Office of Management and Budget (OMB) note the value of Data.gov’s inventory capability in enabling APIs and machine-readable data to establish a government-wide Federal Hiring and Selection Outcomes Dashboard.

Using standard capabilities can also enable data-sharing outside of the federal space. For instance, the United States and United Kingdom governments used Microsoft SharePoint and Office to establish a common virtual environment for sharing data related to weapon design, testing, and engineering in support of their common defense mission in real-time and across the globe.

- 2. All parties seeking to share data must treat each other as equals and communicate consistently.*

At least eight use cases stressed the importance of clear, consistent communication given the diversity of stakeholders, objectives, processes, and technologies that may be involved. Many also referenced the need for high-ranking “champions” to facilitate communication and change management, involve the right parties in discussions, onboard knowledgeable talent, and generally provide the focus and momentum needed to complete data-sharing projects.

More fundamentally, this type of communication and leadership builds respect and trust, which is especially critical when the parties have different missions, authorities, and cultures. For instance, in 2000, the U.S. Consumer Product Safety Commission (CPSC) and the Centers for Disease Control and Prevention (CDC) established the National Electronic Injury Surveillance System – All Injury Program (NEISS-AIP) to collect, identify, and track trends of injuries from hospital emergency departments. As the respondent noted, in addition to a continued long-term commitment and funding,

“Constant communication and mutual respect between staff from both agencies is crucial, along with the willingness for some give and take on design changes... Both groups in a federal-to-federal agreement need to understand that they are ‘partners’ with each other, not one federal agency serving as a ‘contractor’ for another federal agency. [That’s] the biggest reason why this has been a success... There has to be a mutual benefit for both agencies for this type of data-sharing to work.”

3. There are creative ways to share data while still adhering to legal or regulatory restrictions.

Even with significant constraints, many respondents nonetheless reported creative approaches to reap the benefits of data-sharing while maintaining the integrity of their programs. For instance, the U.S. Small Business Administration (SBA) and U.S. Census Bureau established a Joint Statistical Project wherein SBA is authorized to transfer any program data to Census’s Federal Statistical Research Data Centers “for research and statistical purposes.” Once at Census, various projects within the bureau and at partner universities work to help SBA understand the outcomes and impacts of its programs.

Additionally, GSA’s Tenant Satisfaction Survey Dashboard, which offers insights into what drives employee satisfaction and dissatisfaction at federal work locations, allows users to download only the data for their specific agency. This type of role-based approach to data-sharing could at once improve the customer experience by matching audiences with the data most relevant to them, while simultaneously ensuring data security and privacy by limiting access only to authorized individuals.

Notably, many agencies emphasized the need to work with and through their Offices of General Counsel (OGC) to develop and iterate on data-sharing frameworks that serve their unique circumstances. As a respondent from the Department of Agriculture (USDA) Rural Development wrote in describing a data-sharing agreement they struck with the Federal Reserve Bank of St. Louis, “There may be opportunities to develop expertise in data sharing within... OGC so USDA agencies aren’t breaking new ground with each request.”

4. Data models, data catalogs, flow diagrams, and other visuals are essential to reducing complexity.

One key finding is that even perceived “simple” processes are not simple; as one respondent wrote, “Even simple datasets that seem similar... tend to take much more work to align than anticipated.” This view was widely shared by respondents, who universally stressed the value of drafting workflow diagrams and other artifacts to articulate agency operational needs in context, maintaining up-to-date data catalogs, reusing common data definitions and operational processes, and developing a thorough and complete Interface Control Document (ICD). They also stressed the need to allow for time to work through and update the details of Data Use Agreements (DUAs) and Memoranda of Understanding (MOUs) throughout the project lifecycle.

Though far from the only approach, it was especially notable that three huge use cases leveraged the National Information Exchange Model (NIEM) to provide the infrastructure, processes, and resources to share data between partners effectively. For instance, various federal, state, and civilian agencies implemented the National Electronic Interstate Compact Enterprise (NEICE). NEICE replaced a paper-based system with a NIEM-based data exchange for states to place children in families across state lines, ultimately reducing processing time from 6-12 months to 1-2 days.

Similarly, in the defense sector, the Department of Defense (DOD), Department of Homeland Security (DHS), Department of State, and commercial partners leveraged NIEM to replace numerous manual and siloed processes with an automated data collection and reporting system in support of the

Afghanistan Noncombatant Evacuation Operation. This effort, in turn, enabled these partners to provide a single, consistent version of the truth to the Secretary of Defense, the Chairman of the Joint Chiefs of Staff, and other principals.

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Taken collectively, these 23 use cases highlight several practices and principles common to successful data-sharing efforts. They reveal that, as is often the case, the technology being used is rarely the concern; rather, it's the people involved, the processes they follow, and the culture they create.

Appendix C: Jamboard Sessions

To begin this analysis, the team tasked with leading this effort felt that it was important for the DSWG to bring all participants together and find a way to capture a list of the issues facing agencies regarding data-sharing. The team decided to apply human-centered design techniques to capture as much input from as many participants as possible, arriving at a clear picture of the most concerning issues agencies face in data-sharing. Human-centered design is an approach to problem-solving commonly used in design and management frameworks that develops solutions to problems by involving the human perspective in all steps of the problem-solving process.

Given the team's inability to convene the DSWG stakeholders in a conference room with a whiteboard for collaboration, the team employed a virtual meeting arrangement using the web-based "Jamboard" tool, a digital interactive whiteboard developed by Google. The benefit to using Jamboard is that it allows simultaneous participation in ideation and note sharing while also capturing a digital record of the group's input. Screenshots of this input are included as figures in this document.

The team's work consisted of four phases:

1. Pose a "burning question" to engage in group ideation
2. Organize the findings by their relative importance and difficulty
3. Help spur action planning with a From-To-Plan exercise
4. Orchestrate the organization of tasks with a "Call to Action"

Each of these phases is covered in the following pages paired with their related graphics.

The Burning Question

The team brought the DSWG together, providing a link to the shared Jamboard site to begin the ideation session. Following an introductory presentation, the participants were oriented with how to use the Jamboard tools in a collaborative fashion. Once people were connected, the participants were presented with the burning question:

“What challenges do you face in sharing data across agencies today?”

The team applied a time limit for the initial exercise to push the participants to think quickly and share. Input was captured on electronic “sticky notes” and placed on the virtual whiteboard. Input was captured on electronic “sticky notes” and placed on the virtual whiteboard. Like issues were grouped, and the participants were asked to multi-vote, applying two votes to the issues they felt resonated the most to them. This helped to clarify the priority issues. This is all captured in Figure 2.



Figure 2- Initial Jamboard session where participants responded to the question, "What challenges do you face in sharing data across agencies today?"

Sticky note 1	What challenges do you face in sharing data across agencies today?
Sticky note 2	Risk-averse culture often discourages data-sharing between government agencies
Sticky note 3	Lack of centralized MOU/MOA repository
Sticky note 4	Stovepiping of authorities, exacerbated by the resulting differences in SORNs
Sticky note 5	Multiple authorities in play. For VA, we have authorities for VHA (eg. HIPAA) which other administrations of VA does not (VBA, NCA) but have others to include some that are in play for all administrations
Sticky note 6	For sharing out, we have no centralized authority. Everything is stove-piped based upon bureau and access rules are not clearly defined
Sticky note 7	Privacy, technology/technical requirements of sharing, ownership and data-sharing agreements, discovering what can be shared (inventory/catalog), clear policies and authority
Sticky note 8	Repeatable processes. Everything is ad hoc and written from scratch each time.

Sticky note 9	Time consuming to draft and execute data use agreements
Sticky note 10	MOU/MOA requirements vary by agency which further complicates the issue of what rights and responsibilities agencies have to protect/audit the data (receiving agency follows providing agency guidelines who retains ownership)
Sticky note 11	For bringing data in, there is no centralized source of data sources being accessed due to stove-piping
Sticky note 12	Lack of centralization relating a single office approving data-sharing requests. There are reasons for this, but it is a challenge
Sticky note 13	Many people requesting data do not know the exact data they want or are requesting
Sticky note 14	Lack of insight into downstream governance/safeguarding controls and retention of data
Sticky note 15	We don't have an agency wide approach; each program handles these issues differently. We're working on this through agency wide data governance, but it is a slow process.
Sticky note 16	Legal authorities to share data
Sticky note 17	Data-sharing policy that safeguards secondary use of data
Sticky note 18	Searchable DUA repository; "DUA Wizard" to build or update existing agreements
Sticky note 19	Lack of knowledge of what data are available for sharing within government
Sticky note 20	Need to identify (more on the authorities' alignment) strategic data-sharing for exigent circumstances
Sticky note 21	A cost-effective way to share data and system tools/interfaces/design rather than starting from scratch
Sticky note 22	Lack of universal data classification
Sticky note 23	Lack of centralized/federated data repository or inventory
Sticky note 24	Public institutions often aren't FEDRAMP'd. Creates enormous challenges on the agency to document how the data will be protected, managed, and disposed. Can also cause the agency to update documentation (PCLIA/SORNS)

Importance / Difficulty Matrix

The team then took the priority items and asked the participants to compare each issue and then place them in order by priority along an X-axis, with items on the left being less important than things placed on the right. Once the items were lined up from left to right, the participants were then asked to assess each item individually as less or more difficult to address than the others, putting more difficult items above the X-axis and those less difficult to address below the X-axis. Finally, the team organized inputs into four quadrants by drawing a vertical line down the center and a horizontal line across the center, as shown in Figure 3.

Items in the lower left quadrant are considered less important and are less difficult to do. These are generally characterized as the easiest to realize. Items in the upper left quadrant are difficult and of lesser importance. They are often characterized as “luxury” items, challenging items of lesser return. The items in the lower right quadrant are high value because they yield great impact at a lower cost of effort. As it turned out, there were no items that fell into this space within this exercise. Finally, the items in the top right are the most important and the most difficult to do. These are characterized as “strategic” items and of the most long-term value to the participants. The team captured those items for further study.

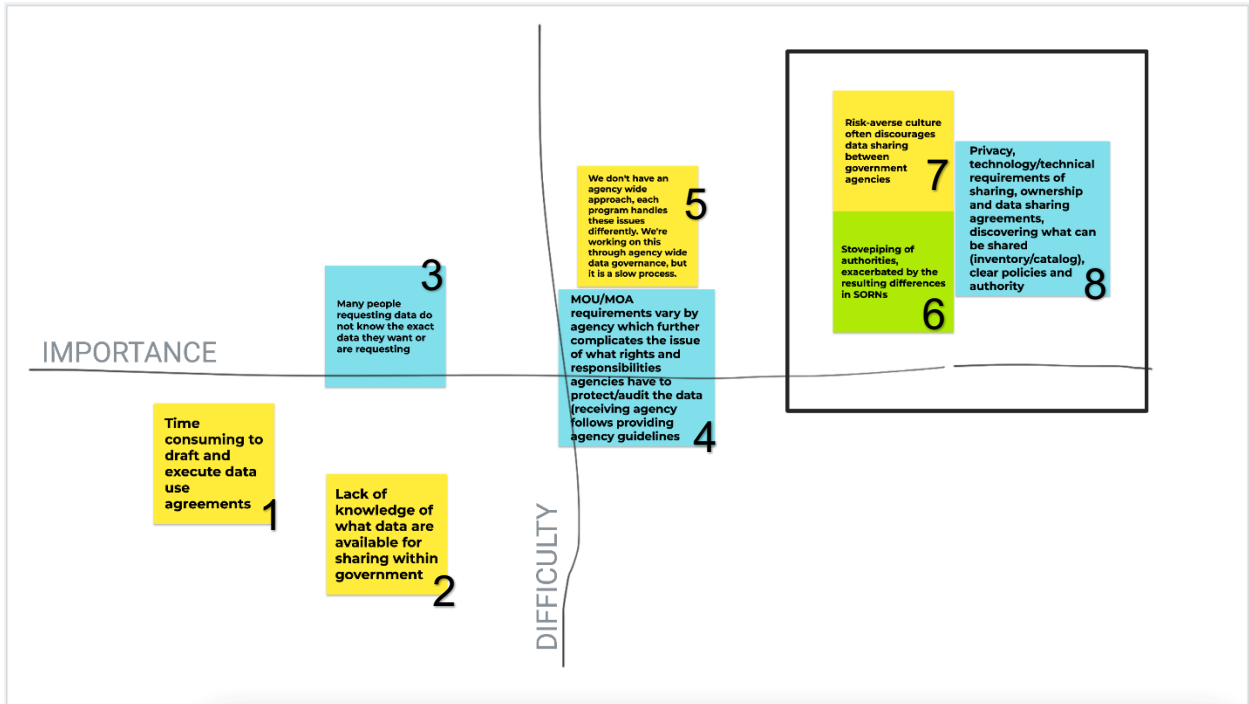


Figure 3- Subsequent Jamboard session where participants responded were asked to organize the prioritized items into an Importance / Difficulty Matrix and in doing so, identify the “strategic” items (most important and most difficult) outlined in the dark square

Sticky note 1	Time consuming to draft and execute data use agreements
Sticky note 2	Lack of knowledge of what data are available for sharing within government
Sticky note 3	Many people requesting data do not know the exact data they want or are requesting
Sticky note 4	MOU/MOA requirements vary by agency which further complicates the issue of what rights and responsibilities agencies have to protect/audit the data (receiving agency follows providing agency guidelines who retains ownership)
Sticky note 5	We don't have an agency wide approach; each program handles these issues differently. We're working on this through agency wide data governance, but it is a slow process.
Sticky note 6	Stovepiping of authorities, exacerbated by the resulting differences in SORNs
Sticky note 7	Risk-averse culture often discourages data-sharing between government agencies
Sticky note 8	Privacy, technology/technical requirements of sharing, ownership and data-sharing agreements, discovering what can be shared (inventory/catalog), clear policies and authority

From-To-Action Plan Exercise

In a subsequent session exercise, the participants took the three items and used a “From-To-Action Plan” exercise to flesh out and capture descriptions of the current state (captured in the “From” column). They then spent time to think about what needed to change for each of the current state items, where they wanted to get to, capturing these in the “To” column. They then spent some time to think through how we would get “to” their recommended future state, capturing this input in the “Action Plan” column.

This information was all captured in Figure 4.

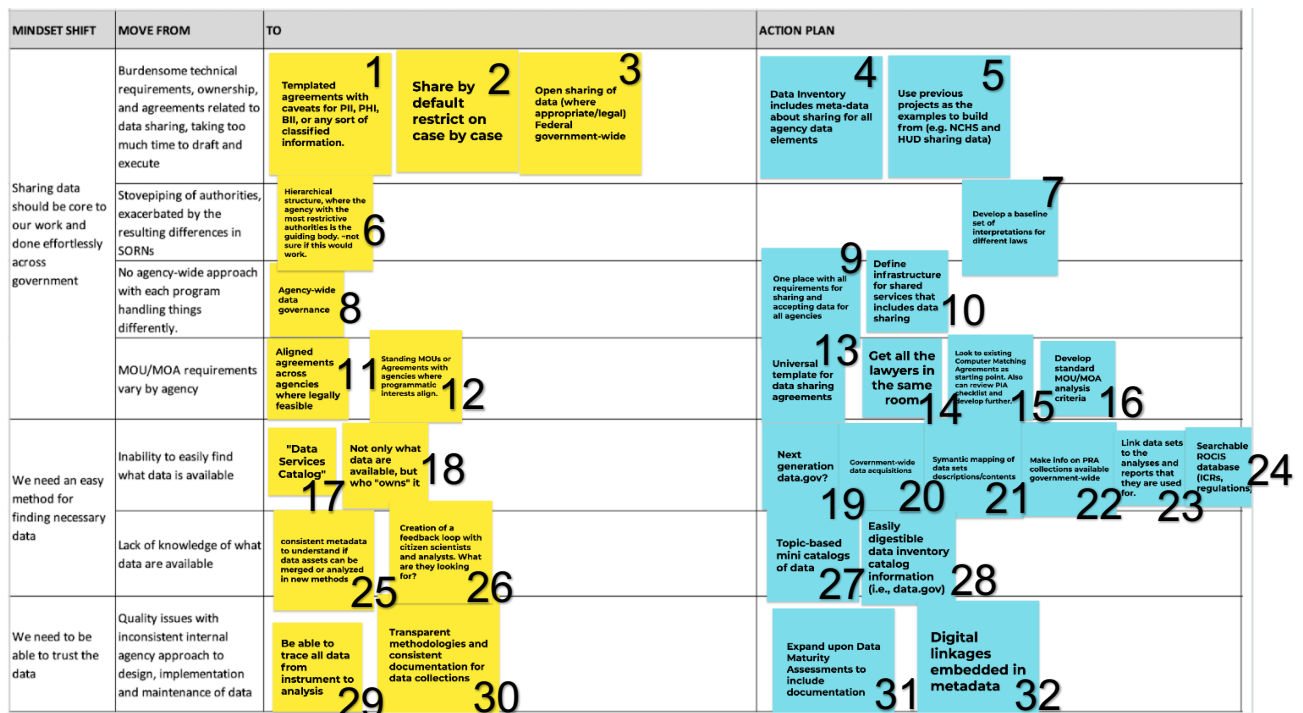


Figure 4- Follow-up Jamboard session using the "From-To-Action Plan" approach where participants reviewed where they currently stand ("From"), decide what they want to get to ("To") and then how they get there ("Action Plan").

Mindset shift 1	Sharing should be core to our work and done efficiently across government
"Move from" 1	Burdensome technical requirements, ownership, and agreements related to data-sharing, taking too much time to draft and execute
Sticky note 1	Templated agreements with caveats for PII, PHI, BII, or any sort of classified information.
Sticky note 2	Share by default restrict on case by case
Sticky note 3	Open sharing of data (where appropriate/legal) Federal government-wide
Sticky note 4	Data Inventory includes meta-data about sharing for all agency data elements
Sticky note 5	Use previous projects as the examples to build from (e.g., NCHS and HUD sharing data)
"Move from" 2	Stove-piping of authorities, exacerbated by the resulting differences in SORNs
Sticky note 6	Hierarchical structure, where the agency with the most restrictive authorities is the guiding body. ~not sure if this would work.
Sticky note 7	Develop a baseline set of interpretations for different laws
"Move from" 3	No agency-wide approach with each program handling things differently
Sticky note 8	Agency-wide data governance
Sticky note 9	One place with all requirements for sharing and accepting data for all agencies
Sticky note 10	Define infrastructure for shared services that includes data-sharing
"Move from" 4	MOU/MOA requirements vary by agency
Sticky note 11	Aligned agreements across agencies where legally feasible
Sticky note 12	Standing MOUs or Agreements with agencies where programmatic interests align.
Sticky note 13	Universal template for data-sharing agreements
Sticky note 14	Get all the lawyers in the same room
Sticky note 15	Look to existing Computer Matching Agreements as starting point. Also, can review PIA checklist and

	develop further.
Sticky note 16	Develop standard MOU/MOA analysis criteria
Mindset shift 2	We need an easy method for finding necessary data
"Move from" 5	Inability to easily find what data is available
Sticky note 17	Data Services Catalog
Sticky note 18	Not only what data are available, but who "owns" it
Sticky note 19	Next generation data.gov?
Sticky note 20	Government-wide data acquisitions
Sticky note 21	Semantic mapping of data sets descriptions/contents
Sticky note 22	Make info on PRA collections available government-wide
Sticky note 23	Link data sets to the analyses and reports that they are used for.
Sticky note 24	Searchable ROCIS database (ICRs, regulations)
"Move from" 6	Lack of knowledge of what data are available
Sticky note 25	Consistent metadata to understand if data assets can be merged or analyzed in new methods
Sticky note 26	Creation of a feedback loop with citizen scientists and analysts. What are they looking for?
Sticky note 27	Topic-based mini catalogs of data
Sticky note 28	Easily digestible data inventory catalog information (i.e., data.gov)
Mindset shift 3	We need to be able to trust the data
"Move from" 7	Quality issues with inconsistent internal agency approach to design, implementation, and maintenance of data
Sticky note 29	Be able to trace all data from instrument to analysis
Sticky note 30	Transparent methodologies and consistent documentation for data collections
Sticky note 31	Expand upon Data Maturity Assessments to include documentation
Sticky note 32	Digital linkages embedded in metadata

Call to Action

The participants identified four key themes of data-sharing challenges represented by the actions captured in their "Action Plan". These issue groups were:

- Data agreements
- Trustworthiness
- Classification
- Awareness

The participants then organized the actions into those issue group categories, making it easier for the DSWG to tell the story about exactly what needed to be done to improve data-sharing functionality by area of focus, call captured in Figure 5. This granularity allowed the DSWG participants to take ownership of specific actions and to provide clear reporting in subsequent meetings.

ISSUES	ACTIONS
Expedite Data Agreements	<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 15%;"> <p>Develop a baseline set of interpretations for different laws</p> <p style="text-align: center;">1</p> </div> <div style="width: 15%;"> <p>Use previous projects as the examples to build from (e.g. NCHS and HUD sharing data)</p> <p style="text-align: center;">2</p> </div> <div style="width: 15%;"> <p>One place with all requirements for sharing and accepting data for all agencies</p> <p style="text-align: center;">3</p> </div> <div style="width: 15%;"> <p>Define infrastructure for shared services that includes data sharing</p> <p style="text-align: center;">4</p> </div> <div style="width: 15%;"> <p>Universal template for data sharing agreements</p> <p style="text-align: center;">5</p> </div> <div style="width: 15%;"> <p>Look to existing Computer Matching Agreements as starting point. Also can review PIA checklist and develop further.</p> <p style="text-align: center;">6</p> </div> <div style="width: 15%;"> <p>Develop standard MOU/MOA analysis criteria</p> <p style="text-align: center;">7</p> </div> <div style="width: 15%; text-align: right;"> <p style="text-align: center;">8</p> <p style="text-align: center;">DUA inventory</p> </div> </div>
Improve Data Awareness	<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 15%;"> <p>Next generation data.gov?</p> <p style="text-align: center;">9</p> </div> <div style="width: 15%;"> <p>Government-wide data acquisitions</p> <p style="text-align: center;">10</p> </div> <div style="width: 15%;"> <p>Make info on PRA collections available government-wide</p> <p style="text-align: center;">11</p> </div> <div style="width: 15%;"> <p>Business-friendly information directory</p> <p style="text-align: center;">12</p> </div> </div>
Improve Data Trustworthiness	<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 15%;"> <p>Searchable ROCIS database (ICRs, regulations)</p> <p style="text-align: center;">13</p> </div> <div style="width: 15%;"> <p>Expand upon Data Maturity Assessments to include documentation</p> <p style="text-align: center;">14</p> </div> <div style="width: 15%;"> <p>Digital linkages embedded in metadata</p> <p style="text-align: center;">15</p> </div> </div>
Create Data Classifications	<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 15%;"> <p>Data Inventory includes meta-data about sharing for all agency data elements</p> <p style="text-align: center;">16</p> </div> <div style="width: 15%;"> <p>Symantic mapping of data sets descriptions/contents</p> <p style="text-align: center;">17</p> </div> <div style="width: 15%;"> <p>Link data sets to the analyses and reports that they are used for.</p> <p style="text-align: center;">18</p> </div> <div style="width: 15%;"> <p>Topic-based mini catalogs of data</p> <p style="text-align: center;">19</p> </div> <div style="width: 15%;"> <p>Easily digestible data inventory catalog information (i.e., data.gov)</p> <p style="text-align: center;">20</p> </div> </div>

Figure 5 - Armed with a completed From-To-Action Plan, a Jamboard session was setup to organize the plans into categories (“Issues”) with very granular actions taken from the Action Plan (“Actions”) with participants taking specific actions to address for the growth

Issue 1	Expedite data agreements
Sticky note 1	Develop a baseline set of interpretations for different laws
Sticky note 2	Use previous projects as the examples to build from (e.g., NCHS and HUD sharing data)
Sticky note 3	One place with all requirements for sharing and accepting data for all agencies
Sticky note 4	Define infrastructure for shared services that includes data-sharing
Sticky note 5	Universal template for data-sharing agreements
Sticky note 6	Look to existing Computer Matching Agreements as starting point. Also, can review PIA checklist and develop further.
Sticky note 7	Develop standard MOU/MOA analysis criteria
Sticky note 8	DUA inventory
Issue 2	Improve data awareness
Sticky note 9	Next generation data.gov?
Sticky note 10	Government-wide data acquisitions
Sticky note 11	Make info on PRA collections available government-wide
Sticky note 12	Business-friendly information directory
Issue 3	Improve data trustworthiness

Sticky note 13	Searchable ROCIS database (ICRs, regulations)
Sticky note 14	Expand upon Data Maturity Assessments to include documentation
Sticky note 15	Digital linkages embedded in metadata
Issue 4	Create data classifications
Sticky note 16	Data Inventory includes meta-data about sharing for all agency data elements
Sticky note 17	Semantic mappings of data sets descriptions/contents
Sticky note 18	Link data sets to the analyses and reports that they are used for
Sticky note 19	Topic-based mini catalogs of data
Sticky note 20	Easily digestible data inventory catalog information (i.e., data.gov)

Appendix D: Mentimeter Discussion

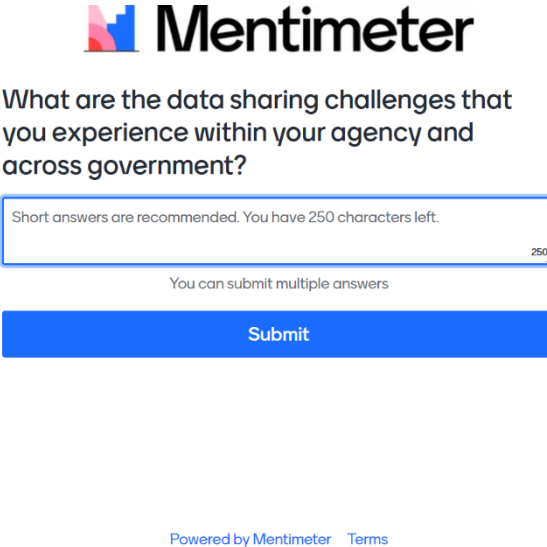
In December 2021, the Data Sharing Working Group took the opportunity to pose questions to the broader CDOC and gather feedback to help inform its recommendations and action plans. The goal of this meeting was to present and reinforce ideas previously addressed by the working group as well as gather new perspectives and considerations.


It was decided that the best approach to capture impactful feedback was through a discussion-based software called Mentimeter. Mentimeter allows organizers to build simple, interactive presentations that feature questions, polls, and other resources useful for discussion. Using this tool, the Data Sharing Working Group posed two topical questions to the CDO Council:

1. What are the data-sharing challenges that you experience within your agency across government?
2. What transformational opportunities could make the best Federal data-sharing?

Activity

The group split into several breakout rooms of 5-6 people, where each member would get an opportunity to give additional input. A designated group lead facilitated discussion in the breakout rooms while a designated reporter captured the input and submitted it to the Mentimeter (see Figure 6).



 **Mentimeter**

What are the data sharing challenges that you experience within your agency and across government?

Short answers are recommended. You have 250 characters left.

You can submit multiple answers

[Submit](#)

Powered by Mentimeter [Terms](#)

Figure 6- Submission process for Mentimeter discussion. Group reporter captures individual input and submits it, where it is aggregated with the other groups' submissions.

Each group was tasked with identifying agency-specific and government-wide data-sharing challenges whilst highlighting possible solutions or opportunities. After identifying these challenges, the groups were then prompted to entertain “Blue Sky Thinking”, where participants would list a best-case scenario for data-sharing in the future.

Discussion

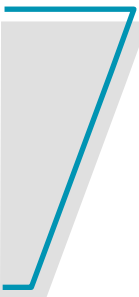
After the allotted time for the breakout rooms was up, the meeting participants reviewed the Mentimeter submissions, and each group reporter presented their team’s answers to the broader group for discussion (see Figure 7).



Figure 7- Aggregated responses from each breakout group. Group reporters presented their submissions and discussed challenges and opportunities with the broader council

Prompt	What are the data-sharing challenges that you experience within your agency and across the government?
Response 1	Most of our data is PII
Response 2	Data-sharing agreements are required across agency bureaus and offices
Response 3	Unclear what the agency's position on data-sharing (are we for/against?)
Response 4	Agency may not have capacity to effectively protect data while sharing (especially PII)
Response 5	Internal challenges sharing within a large agency. Challenges sharing publicly, technical challenges passing data back and forth
Response 6	Even if there's a standard process, it's still one at a time and slow
Response 7	File size limitations through email
Response 8	Group 2: Data-sharing Challenges - it takes a long time to put MOU in place (through the approval process-- data sets difficult to align--cultural problem: difficulty convincing outside to entities to "play ball". You have to prove the value to THEM
Response 9	Difficult to find customers of shared data. If there is a stakeholder that wants to use the data, there is a clear set of items that flow from it. But, with shared data, the question becomes, "It might be helpful to others."

The group identified common themes across the submissions from each breakout room and composed a unified narrative of challenges with data sharing at the Federal level. Additionally, the group elevated the more relevant challenges and presented various opportunities and/or solutions to better inform the final recommendations and action plans to which the Data Sharing Working Group should commit.



If you have questions or would like more information about this report and findings, contact cdocstaff@gsa.gov.

