



January 2016

DATA ACT

Data Standards
Established, but More
Complete and Timely
Guidance Is Needed
to Ensure Effective
Implementation

GAO Highlights

Highlights of [GAO-16-261](#), a report to congressional committees

Why GAO Did This Study

The DATA Act directed OMB and Treasury to establish government-wide data standards by May 2015 to improve the transparency and quality of federal spending data. Agencies must begin reporting spending data in accordance with these standards by May 2017 and must publicly post spending data in machine-readable formats by May 2018. Consistent with GAO's mandate under the act, this report is part of a series of products that GAO will provide to the Congress as DATA Act implementation proceeds.

This report (1) identifies steps taken by OMB and Treasury to standardize data element definitions and the extent to which those definitions are consistent with leading practices or face challenges that could affect data quality; (2) reviews efforts by OMB and Treasury to provide agencies with technical implementation guidance and related challenges; and (3) examines the implementation status of selected federal agencies. GAO analyzed data standards against leading practices; reviewed key implementation documents, technical specifications, and applicable guidance; and interviewed staff at OMB, Treasury, and other selected agencies.

What GAO Recommends

GAO recommends that OMB and Treasury (1) provide agencies with clarifications to address potential quality issues with the definitions, and (2) take steps to align the release of finalized technical guidance and the broker service with agency implementation time frames. OMB and Treasury generally concurred with our recommendations.

View [GAO-16-261](#). For more information, contact Michelle Sager at (202) 512-6806 or sagem@gao.gov.

January 2016

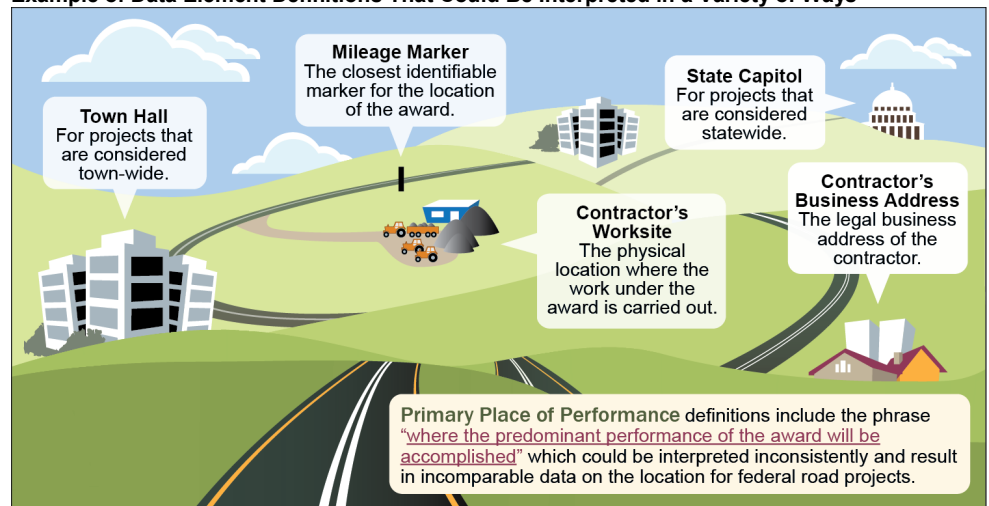
DATA ACT

Data Standards Established, but More Complete and Timely Guidance Is Needed to Ensure Effective Implementation

What GAO Found

As required by the Digital Accountability and Transparency Act of 2014 (DATA Act), the Office of Management and Budget (OMB) and the Department of the Treasury (Treasury) issued definitions for 57 federal spending data elements. GAO found that most definitions adhered to leading practices derived from international standards for formulating data definitions. Specifically, 12 of the 57 definitions met all 13 leading practices and none met fewer than 9. However, GAO found several definitions that could lead to inconsistent reporting. For example, as shown in the figure below, the *Primary Place of Performance* definitions' inclusion of the word "predominant" leaves much open to interpretation. Without more interpretive clarification, agencies run the risk of reporting data that cannot be aggregated government-wide.

Example of Data Element Definitions That Could Be Interpreted in a Variety of Ways



Source: GAO analysis of Office of Management and Budget and Treasury information. | GAO-16-261

OMB and Treasury addressed some of GAO's earlier concerns on draft technical guidance for implementing data standards. However, final technical guidance has not been issued, which could impede agency implementation. While OMB and Treasury have released interim versions of technical guidance, they have not yet released final guidance to provide a stable base for agency implementation. They also are developing an intermediary service ("broker") to standardize and validate agency data submissions. GAO's review of selected implementation plans found that agencies need the technical guidance and the intermediary service to be finalized before they can develop detailed agency-level plans. If this guidance is not aligned with agency implementation timelines, agencies may delay taking key steps or need to revise existing plans once final technical guidance is released, thereby hindering their ability to meet DATA Act requirements and timelines.

GAO found that the three agencies it reviewed—the Departments of Agriculture and Health and Human Services, as well as the Corporation for National and Community Service—have formed internal teams and are inventorying their data and assessing any needed changes to policies, processes, and technology to implement the DATA Act.

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Abbreviations

CNCS	Corporation for National and Community Service
DATA Act	Digital Accountability and Transparency Act of 2014
ERP	enterprise resource planning
FFATA	Federal Funding Accountability and Transparency Act of 2006
HHS	Department of Health and Human Services
ISO	International Organization for Standardization
OMB	Office of Management and Budget
SAO	senior accountable official
SBA	Small Business Administration
SGL	U.S. Government Standard General Ledger
Treasury	Department of the Treasury
USDA	United States Department of Agriculture
XBRL	extensible business reporting language

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January 29, 2016

Congressional Committees:

The federal government spends more than \$3.5 trillion annually; however, tracking this money can be difficult because spending data are often incomplete or inaccurate. The Digital Accountability and Transparency Act of 2014 (DATA Act) holds considerable promise for shedding more light on how federal funds are spent.¹ To improve the transparency and quality of the federal spending data made available to the public, the DATA Act directs the Office of Management and Budget (OMB) and the Department of the Treasury (Treasury) to establish government-wide data standards that include common data elements for reporting financial and payment information by May 2015. In general, the act requires agencies to begin reporting financial spending data using these standards by May 2017 and publicly post spending data in machine-readable formats by May 2018.

It is critical that agencies use government-wide standards to report spending data in order to help ensure the quality and usefulness of the resulting information. We have previously reported on persistent challenges involving the quality and completeness of the spending data that federal agencies report to USAspending.gov, a free, publicly accessible website containing data on federal awards and subawards.² To address these problems, we recommended that the Director of OMB (1) clarify guidance on reporting award information and maintaining supporting records and (2) develop and implement oversight processes to ensure that awards data are consistent with agency records. OMB generally agreed with our recommendations and we will continue to monitor OMB's implementation of them.

¹Pub. L. No. 113-101, 128 Stat. 1146 (May 9, 2014). The DATA Act amended the Federal Funding Accountability and Transparency Act of 2006 (FFATA), Pub. L. No. 109-282, 120 Stat. 1186 (Sept. 26, 2006), *codified at* 31 U.S.C. § 6101 note. We refer to language added to FFATA by the DATA Act as DATA Act requirements.

²GAO, *Data Transparency: Oversight Needed to Address Underreporting and Inconsistencies on Federal Award Website*, [GAO-14-476](#) (Washington, D.C.: June 30, 2014).

This report is the latest GAO work in response to a statutory provision to review DATA Act implementation.³ This report (1) identifies steps taken by OMB and Treasury to establish government-wide data element definitions and the extent to which those definitions are consistent with leading practices or face challenges that could affect data quality; (2) reviews efforts by OMB and Treasury to provide agencies with technical implementation guidance to standardize how data are collected and reported and related challenges; and (3) examines the status of selected federal agencies' progress in meeting DATA Act requirements.

To assess the extent to which OMB and Treasury established data standards that are consistent with leading practices, we analyzed OMB's and Treasury's 57 standardized data element definitions using criteria established under the DATA Act⁴ as well as leading practices for well-constructed data definitions derived from standards developed by the International Organization for Standardization (ISO).⁵ To assess OMB's and Treasury's development of a technical schema that specifies the format, structure, tagging, and transmission of each data element to allow consistency and comparability, we reviewed and analyzed differences

³Previous work includes: GAO, *DATA Act: Progress Made in Initial Implementation but Challenges Must be Addressed as Efforts Proceed*, [GAO-15-752T](#) (Washington, D.C.: July 29, 2015) and GAO, *Federal Data Transparency: Effective Implementation of the DATA Act Would Help Address Government-wide Management Challenges and Improve Oversight*, [GAO-15-241T](#) (Washington, D.C.: Dec. 3, 2014).

⁴The DATA Act requires that data standards comply with certain requirements to the extent reasonable and practicable. Those requirements include that data standards (1) incorporate widely-accepted common data elements, such as those developed by international standards-setting bodies, federal agencies with authority over contracting and financial assistance, and accounting standards organizations; and (2) produce consistent and comparable data. FFATA, § 4(b)(1), (6).

⁵The International Organization for Standardization (ISO) is an independent, nongovernmental membership organization and the world's largest developer of voluntary international standards. It has published more than 20,500 international standards covering a wide range of industries including technology, agriculture, and health care. For the purposes of this report, we refer to leading practices derived from the ISO standards as ISO leading practices. For access to the ISO leading practices for the formulation of data definitions, published July 15, 2004 see: [http://standards.iso.org/ittf/PubliclyAvailableStandards/c035346_ISO_IEC_11179-4_2004\(E\).zip](http://standards.iso.org/ittf/PubliclyAvailableStandards/c035346_ISO_IEC_11179-4_2004(E).zip). ©ISO: This material is reproduced from ISO/IEC 11179-4:2004(E) with permission of the American National Standards Institute (ANSI) on behalf of the International Organization for Standardization. All rights reserved.

between version 0.2, version 0.5, and version 0.6 of the schema.⁶ We reviewed applicable agency guidance and documentation related to the data standards and technical schema on OMB's and Treasury's websites. We also interviewed knowledgeable agency officials about their standards-setting and technical schema development processes. To obtain information on the status of agencies' efforts to meet their DATA Act requirements and any challenges they faced meeting those requirements, we selected three agencies—the Department of Health and Human Services (HHS), the Department of Agriculture (USDA), and the Corporation for National and Community Service (CNCS). We identified these agencies using a three-step selection process that considered (1) whether the agency was in compliance with existing federal requirements for federal financial management systems; (2) the type of federal funding provided (such as grants, loans, and contracts); and (3) status as a Federal Shared Service Provider for financial management.⁷ The selected agencies represent a mix of these characteristics to illustrate a range of conditions under which agencies are implementing the DATA Act. We reviewed the selected agencies' implementation plans and related project plans and interviewed agency officials responsible for DATA Act implementation.⁸ Additional details regarding our objectives, scope, and methodology are provided in appendix I.

We conducted this performance audit from May 2015 to January 2016 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

⁶OMB and Treasury released version 0.1 of the DATA Act schema on March 30, 2015, and subsequently released additional versions in the following months: version 0.2 in May, version 0.5 in July, and version 0.6 in October. Versions 0.3 and 0.4 were not publicly released. On December 31, 2015, OMB and Treasury released version 0.7, which we have yet to fully review.

⁷The full list of agencies we selected from included the 24 CFO Act agencies, as well as smaller agencies that already reported spending data to USAspending.gov under FFATA.

⁸Office of Management and Budget, *Increasing Transparency of Federal Spending by Making Federal Spending Data Accessible, Searchable, and Reliable*, OMB Memorandum M-15-12 (May 8, 2015). Among other things, this memorandum directs agencies to designate an agency point of contact or senior accountable official who is a senior official in the agency with the ability to coordinate across multiple communities and federal lines of business.

the evidence obtained provides a reasonable basis for our findings and conclusions on our audit objectives.

Background

The DATA Act Expanded the Required Reporting of Federal Spending Data under FFATA

During the last decade, Congress and the administration have taken several steps to improve the transparency of federal spending data. In 2006, Congress passed and the President signed the Federal Funding Accountability and Transparency Act of 2006 (FFATA) to increase the transparency and accountability of federal contracts and financial assistance awards. Among other things, FFATA required OMB to establish USAspending.gov, containing obligational data on federal awards and subawards,⁹ which was launched in December 2007. One of the stated purposes of the DATA Act is to expand FFATA to include direct federal agency expenditures and link contract, loan, and grant spending information to federal programs so that taxpayers and policy makers can more effectively track federal spending.

Reporting throughout the federal spending cycle. Full and effective implementation of the DATA Act will allow funds to be tracked at multiple points in the federal spending lifecycle. For example, once fully implemented, amounts appropriated, obligated, and subsequently outlayed for a particular program activity would all be publicly available on USAspending.gov or a successor website.¹⁰ These additional federal spending cycle data on appropriations, obligations, and outlays will provide more transparency on federal awards. USAspending.gov provides information on award amounts for grants, contracts, and other types of information, but the only information currently available is data on federal award obligations.

⁹An obligation is a definite commitment that creates a legal liability of the government for the payment of goods and services ordered or received, or a legal duty on the part of the United States that could mature into a legal liability by virtue of actions on the part of the other party beyond the control of the United States. An agency incurs an obligation, for example, when it places an order, signs a contract, awards a grant, purchases a service, or takes other actions that required the government to make payments to the public or from one government account to another.

¹⁰An appropriation is budget authority to incur obligations and to make payments from the Treasury for specified purposes, such as an appropriations act. Outlays are amounts paid by federal agencies, by cash or cash equivalent, to liquidate government obligations.

The DATA Act represents a significant change to the types of data reported by requiring additional budget and financial information, which, to date, has not been reported on USAspending.gov. The act requires budget and financial information to be reported on a monthly basis if practicable, but not less than quarterly. However, OMB's May 2015 guidance directs agencies to continue reporting on awards data at least bi-weekly. To cover appropriations and outlays in addition to obligations, OMB and Treasury officials noted that data will need to be pulled from budgetary and financial systems in addition to the multiple contract and assistance systems currently used. It is essential that all of this data be appropriately linked to achieve the full potential for users of this data inside and outside of government.

Reporting on more types of federal spending. The DATA Act requires reporting on almost all types of federal spending. Currently, USAspending.gov reports data on federal awards including grants, contracts, and loans. Under the DATA Act, however, more budget and financial information will be available that should allow users of the data to organize and analyze the data in ways that are not currently possible. Some of these new types of spending information include:

- Budget and financial information on the different types of goods and services purchased by the federal government, such as personnel compensation, will be reported in the aggregate.
- Budget and financial information from financial arrangements of the federal government, such as public-private partnerships, interagency agreements, and user charges, will also be reported.
- As part of their guidance to agencies on DATA Act implementation, OMB lowered the threshold at which agencies must report data on financial assistance and procurement prime awards from \$25,000 or greater to those awards greater than the micro-purchase threshold, which is currently \$3,500.¹¹

Improving data quality. Our prior work found that unclear guidance and weaknesses in executive branch oversight contributed to persistent challenges with data on USAspending.gov. These challenges relate to the

¹¹OMB Memorandum M-15-12. 48 C.F.R. § 2.101. For certain acquisitions, such as acquisitions of construction subject to the Davis-Bacon Act, the micro-purchase threshold is set at a higher or lower dollar amount.

quality and completeness of data submitted by federal agencies. For example, in 2010, we reported that USAspending.gov did not include information on awards from 15 programs at 9 agencies for fiscal year 2008.¹² In that report we also reviewed a sample of 100 awards on the website and found that each award had at least one data error. In June 2014, we reported that roughly \$619 billion in assistance awards were not properly reported in fiscal year 2012.¹³ In addition, we found that few reported awards—between 2 and 7 percent—contained information that was fully consistent with agency records for all 21 data elements we examined. A factor that contributed to this error rate was the lack of guidance on how to interpret some data elements including award description. See appendix II for more information on our recommendations related to these findings and OMB’s and Treasury’s actions to date.

The DATA Act identifies the improvement of data quality as one of its purposes. Toward that end, the act requires that inspectors general conduct reviews of data samples submitted by their respective agency and subsequently assess and report on the data’s completeness, timeliness, quality, and accuracy. We are required to review these reports and then assess and compare the completeness, timeliness, quality, and accuracy of the data across the federal government.

OMB and Treasury Issued Guidance to Help Agencies Carry Out DATA Act Reporting Requirements

OMB and Treasury issued initial guidance to federal agencies in May 2015 on reporting requirements pursuant to FFATA as well as the new requirements that agencies must employ pursuant to the DATA Act.¹⁴ The guidance also directs agencies to

- implement data definition standards for the collection and reporting of agency-level and award-level data by May 9, 2017;

¹²GAO, *Electronic Government: Implementation of the Federal Funding Accountability and Transparency Act of 2006*, [GAO-10-365](#) (Washington, D.C.: Mar. 12, 2010).

¹³[GAO-14-476](#).

¹⁴OMB Memorandum M-15-12.

- implement a standard data exchange format for providing data to Treasury to be displayed on USAspending.gov or a successor site; and
- link agency financial systems with award systems by continuing the use of specified unique identification numbers for financial assistance awards and contracts.

OMB asked agencies to submit DATA Act implementation plans in September 2015, concurrent with the fiscal year 2017 budget request. According to OMB staff, as of December 2015, all 24 CFO Act agencies as well as 27 smaller federal agencies have submitted implementation plans. OMB required the plans to include: (1) a timeline of tasks and steps toward implementing the requirements of this guidance; (2) an estimate of costs to implement these tasks and steps; (3) a detailed narrative that explains the required steps, identifies the underlying assumptions, and outlines the potential difficulties and risks to successfully implement the plan; and (4) a detailed project plan that agencies will develop over time.

Additionally, OMB and Treasury issued a DATA Act Implementation Playbook in June 2015, which recommends eight key steps for agencies to fulfill their requirements under the DATA Act (see table 1).

Table 1: OMB's and Treasury's 8-Step Implementation Plan for Agencies

Steps for agencies	Timeline for completion
Organize a DATA Act team and appoint a senior accountable official	Spring 2015
Review DATA Act elements	Spring 2015
Inventory data and associated business processes	February 2015-September 2015
Plan for required changes to systems and business processes and develop an implementation plan	March 2015-September 2015
Execute the broker service: implement system changes and extract data	October 2015-February 2016
Test broker outputs to ensure data are valid	October 2015-February 2016
Update systems: implement other system changes (e.g., establish linkages between program and financial data, capture any new data)	October 2015-February 2017
Submit data	March 2016-May 9, 2017

Source: GAO analysis of OMB's and Treasury's DATA Act Implementation Playbook (June 2015). | GAO-16-261

To support this effort, OMB and Treasury issued guidance to help agencies develop the plans and hosted workshops and conference calls to address agency questions.

OMB and Treasury Established Government-wide Data Standards, but More Remains to Be Done to Ensure Consistent and Comparable Reporting of Federal Spending Data

OMB and Treasury Issued 57 Standardized Data Element Definitions for Reporting Federal Spending Data

The DATA Act requires OMB and Treasury to establish government-wide financial data standards for any federal funds made available to or expended by federal agencies and recipients of federal funds. The specific items to be reported under the act are generally referred to as data elements. The overall data standardization effort consists of two distinct, but related, components: (1) establishing definitions which describe what is included in each data element with the aim of ensuring that information will be consistent and comparable, and (2) creating a data exchange standard with technical specifications which describe the format, structure, tagging, and transmission of each data element. The data exchange standard is also intended to depict the relationships between standardized data elements.

On May 8, 2015, a year after the passage of the DATA Act, OMB and Treasury issued the first 15 standardized data element definitions, including definitions for 8 new elements introduced by the DATA Act. From June through August 2015, OMB and Treasury released an additional 42 standardized data element definitions for reporting under FFATA, as amended by the DATA Act. During this time, OMB and Treasury released data element definitions in stages and opened a 3-week feedback period for federal and nonfederal stakeholders to provide

public input on the definitions before they were issued.¹⁵ During this period we separately met with OMB and Treasury staff several times to share our views and identify issues and concerns with proposed definitions. See figure 1 for a listing of the 57 standardized data elements grouped by type. See appendix III for the definitions of each of the data elements.

¹⁵OMB and Treasury used their Federal Spending Transparency website to solicit public input on proposed data element definitions. These discussions can be found at: <https://github.com/fedspendingtransparency/fedspendingtransparency.github.io/issues>.

Figure 1: The 57 DATA Act Standardized Data Elements, Grouped by Type

<p>Account Level Data Standards: These data elements describe the appropriations accounts from which agencies fund Federal awards.</p>	<ul style="list-style-type: none"> ▶ Appropriations Account ▶ Budget Authority Appropriated ▶ Object Class 	<ul style="list-style-type: none"> ▶ Obligation ▶ Other Budgetary Resources ▶ Outlay ▶ Program Activity 	<ul style="list-style-type: none"> ▶ Treasury Account Symbol ▶ Unobligated Balance
<p>Award Characteristic Data Standards: These data elements describe characteristics that apply to specific financial assistance and/or procurement awards.</p>	<ul style="list-style-type: none"> ▶ Action Date ▶ Action Type ▶ Award Description ▶ Award Identification Number ▶ Award Modification/Amendment Number ▶ Award Type ▶ Business Types ▶ Catalog of Federal Domestic Assistance (CFDA) Number ▶ Catalog of Federal Domestic Assistance (CFDA) Title 	<ul style="list-style-type: none"> ▶ North American Industrial Classification System (NAICS) Code ▶ North American Industrial Classification System (NAICS) Description ▶ Ordering Period End Date ▶ Parent Award Identification Number ▶ Period of Performance Current End Date ▶ Period of Performance Potential End Date 	<ul style="list-style-type: none"> ▶ Period of Performance Start Date ▶ Primary Place of Performance Address ▶ Primary Place of Performance Congressional District ▶ Primary Place of Performance Country Code ▶ Primary Place of Performance Country Name ▶ Record Type
<p>Award Amount Data Standards: These data elements describe characteristics that apply to amount information for financial assistance and/or procurement awards.</p>	<ul style="list-style-type: none"> ▶ Amount of Award ▶ Current Total Value of Award ▶ Federal Action Obligation 	<ul style="list-style-type: none"> ▶ Non-Federal Funding Amount ▶ Potential Total Value of Award 	
<p>Awardee and Recipient Entity Data Standards: These data elements describe the recipients/awardees of Federal funds.</p>	<ul style="list-style-type: none"> ▶ Awardee/Recipient Legal Entity Name ▶ Awardee/Recipient Unique Identifier ▶ Highly Compensated Officer Name 	<ul style="list-style-type: none"> ▶ Highly Compensated Officer Total Compensation ▶ Legal Entity Address ▶ Legal Entity Congressional District ▶ Legal Entity Country Code 	<ul style="list-style-type: none"> ▶ Legal Entity Country Name ▶ Ultimate Parent Legal Entity Name ▶ Ultimate Parent Unique Identifier
<p>Awarding Entity Data Standards: These data elements describe the characteristics of the entity that made the award.</p>	<ul style="list-style-type: none"> ▶ Awarding Agency Code ▶ Awarding Agency Name ▶ Awarding Office Code ▶ Awarding Office Name 	<ul style="list-style-type: none"> ▶ Awarding Sub Tier Agency Code ▶ Awarding Sub Tier Agency Name 	
<p>Funding Entity Data Standards: These data elements describe the characteristics of the entity that provided the funding for an award.</p>	<ul style="list-style-type: none"> ▶ Funding Agency Code ▶ Funding Agency Name ▶ Funding Office Code ▶ Funding Office Name 	<ul style="list-style-type: none"> ▶ Funding Sub Tier Agency Code ▶ Funding Sub Tier Agency Name 	

Source: GAO analysis of Office of Management and Budget and Treasury information. | GAO-16-261

Data Element Definitions Generally Followed Leading Practices, but Exceptions Could Result in Inconsistent Reporting if Not Addressed

The DATA Act requires that data standards—to the extent reasonable and practicable—incorporate widely-accepted common data elements, such as those developed by international standards-setting bodies, federal agencies with authority over contracting and financial assistance, and accounting standards organizations.¹⁶ Incorporating leading practices from international standards organizations offers one way to help reduce uncertainty and confusion when reporting and interpreting data standards. Developing a well-crafted data element definition is one key component to ensuring that a data standard produces consistent and comparable information. The ISO, a standards-setting body composed of international experts in various fields of study, has developed 13 leading practices for formulating data definitions for the purposes of specifying, describing, explaining, and clarifying the meaning of data.¹⁷ These practices include that definitions be precise and unambiguous, avoid circular reasoning, and be expressed without embedding definitions of other data or underlying concepts, among others.

We found that the 57 DATA Act data element definitions largely followed ISO leading practices for the formulation of data definitions. Specifically, 12 data element definitions met all of the ISO leading practices and each of the remaining 45 definitions met no fewer than 9 leading practices, meaning that even the lowest-rated data elements in our review adhered to almost 70 percent of the ISO leading practices.¹⁸ We also found variation in which of the leading practices each definition satisfied. For example, our analysis found that all 57 definitions followed the leading practices of avoiding circular reasoning and being stated as a descriptive phrase or sentence, whereas 38 of the 57 were determined to be sufficiently precise and unambiguous. Table 2 provides a summary of our findings applying the ISO leading practices for formulating data definitions

¹⁶FFATA, § 4(b)(1).

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¹⁸The 12 data element definitions that met all 13 ISO leading practices are: *Action Date*, *Award Identification Number*, *Awarding Agency Name*, *Awarding Sub Tier Agency Code*, *Awarding Sub Tier Agency Name*, *Catalog of Federal Domestic Assistance Number*, *Catalog of Federal Domestic Assistance Title*, *North American Industrial Classification System Code*, *Parent Award Identification Number*, *Period of Performance Start Date*, *Potential Total Value of Award*, and *Program Activity*.

to the definitions developed by OMB and Treasury as part of DATA Act implementation.

Table 2: DATA Act Data Element Definitions’ Adherence to the International Organization for Standardization’s Leading Practices for Formulating Data Definitions

ISO leading practice ^a	Number of data element definitions that adhere to leading practice (out of 57)
Avoid circular reasoning	57
Be appropriate for the type of metadata item being defined	57
Be stated as a descriptive phrase or sentence(s)	57
State what the concept is, not only what it is not	57
Be stated in the singular	54
Be concise	53
Be able to stand alone	52
Contain only commonly understood abbreviations	52
Be expressed without embedding definitions of other data or underlying concepts	50
State the essential meaning of the concept	49
Use the same terminology and consistent logical structure for related definitions	49
Be expressed without embedding rationale, functional usage, or procedural information	39
Be precise and unambiguous	38

Source: GAO analysis and application of ISO leading practices and standardized DATA Act data element definitions. | GAO-16-261
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Although most of the definitions generally adhered to ISO leading practices, examples where data elements did not do so raise potential concerns regarding an increased risk that agencies may not apply the definitions consistently, thus affecting the comparability of reported data. Data element definitions that are imprecise or ambiguous may allow for more than one interpretation by agency staff collecting, compiling, and reporting on these data and thus could result in inconsistent and potentially misleading reporting when aggregated across government or compared between agencies. For example, OMB and Treasury defined *Award Description* as “a brief description of the purpose of the award.” In our previous work on the data quality of USAspending.gov, we identified challenges with the *Award Description* data element, citing the wide range

of information that agencies report as the description or purpose.¹⁹ Specifically, we found that agencies routinely provided information for this data element using shorthand descriptions, acronyms, or terminology that could only be understood by officials at the agency that made the award. For example, in our 2010 report we found that the description for one contract we reviewed read “4506135384!DUMMY LOA,” while the award records indicated that the award was for the purchase of metal pipes. Another was described as “Cont Renewals All Types,” while the award records showed the contract was for an apartment building. This lack of basic clarity would make the data element difficult for others outside the agency to understand and would also limit the ability to meaningfully aggregate or compare this data across the federal government.

We made recommendations to OMB in 2010 and 2014 and to Treasury in 2014 to improve the accuracy and completeness of *Award Description*, which have yet to be addressed. At that time, Treasury officials neither agreed nor disagreed with our recommendations, while OMB staff generally agreed with them stating that they were consistent with actions required under the DATA Act. These OMB staff said while they would consider interim steps to improve data quality, they did not want to inhibit agency efforts to work toward implementation of the act. Appendix II provides more information on the status of these recommendations. In subsequent discussions, OMB staff stated that they are hesitant to make substantial changes to the reporting of *Award Description*, which focuses on the purpose of a federal award, before additional progress is made on the related and more complex issue of how to ascribe spending data to a specific government program. However, it is unclear why this should prevent them from taking steps such as providing agencies with guidance on how to avoid excessive jargon, provide a specific level of detail, or develop a standardized taxonomy of appropriate responses.

While the data quality concerns presented by the definition of *Award Description* are relatively straightforward to address, other definitions that we found to be imprecise and ambiguous present greater challenges due to long-standing differences in reporting across agencies and among the federal grant, procurement, and loan communities. An example of this is the four data elements that OMB and Treasury have issued that

¹⁹ [GAO-14-476](#) and [GAO-10-365](#).

collectively represent the concept of *Primary Place of Performance*.²⁰ The location or place of performance of specific grant, contract, or other federal spending has long been a data element collected by agencies. However, in the past, agencies have taken varied approaches to reporting place of performance information—sometimes describing where the funded activity takes place, sometimes the recipient of the product or activity, or sometimes the location of the administrative headquarters of the provider or a sub-entity. The definitions issued by OMB and Treasury standardize some of the mechanics of what *Primary Place of Performance* covers, such as city, county, state, and ZIP+4 codes. In addition, OMB staff told us that, by using the words “where the predominant performance of the award will be accomplished” the definitions are intended to focus on where the majority of the activity actually takes place rather than, for example, the location of the ultimate recipient of the product or service funded by federal spending.

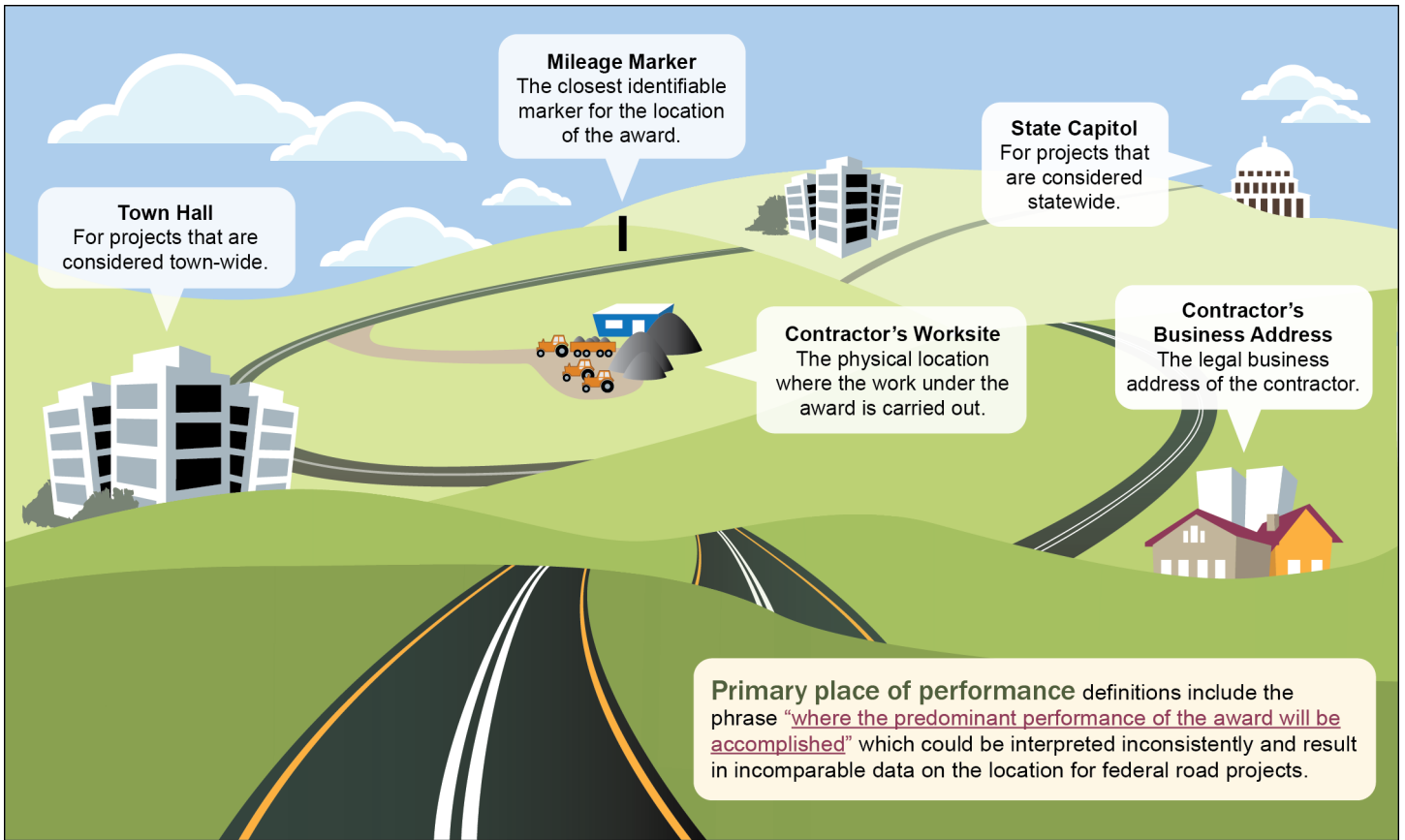
However, OMB’s and Treasury’s definitions still leave room for differing interpretations that could result in agencies capturing and reporting this information differently. For example, OMB staff told us that they interpret the term “predominant performance” to mean “more than half,” but this clarification is not contained in the definition itself, nor in the accompanying white paper that was issued with the data element definitions. Other questions exist regarding the appropriate unit of analysis for making such a determination. For example, it is unclear if “where the predominant performance of the award will be accomplished” is determined by the amount of time spent in a particular location when carrying out the award or by some other metric such as number of staff deployed or the amount of financial resources expended in a particular location. The standardized definitions for *Primary Place of Performance*

²⁰The four *Primary Place of Performance* data elements are defined as follows: (1) *Primary Place of Performance Address*: The address where the predominant performance of the award will be accomplished. The address is made up of six components: Address Lines 1 and 2, City, County, State Code, and ZIP+4 or Postal Code; (2) *Primary Place of Performance Congressional District*: U.S. Congressional district where the predominant performance of the award will be accomplished. This data element will be derived from the *Primary Place of Performance Address*; (3) *Primary Place of Performance Country Code*: Country code where the predominant performance of the award will be accomplished; and (4) *Primary Place of Performance Country Name*: Name of the country represented by the country code where the predominant performance of the award will be accomplished. Although OMB and Treasury treat these as four discrete data elements, for the purposes of our discussion in this report we refer to them collectively as *Primary Place of Performance*.

do not address this level of detail and according to OMB staff they have not issued guidance or other resources, such as a FAQ document, to help agencies operationalize this concept in a consistent and comparable way.

Another concern involves how to assign a value for *Primary Place of Performance* when the activity being described does not readily lend itself to a discrete geospatial location (such as a consulting service provided in many locations) or if it spans multiple locations (such as a road traversing multiple counties or states). One approach that has been previously used for reporting the location of federal spending for road projects on USAspending.gov is to assign the spending to the county or state capitol in the jurisdiction where the majority of the road was constructed. OMB staff told us that they would likely follow such an approach when reporting on *Primary Place of Performance* using the newly standardized definition in the future. While this may be potentially misleading in some situations, in the absence of a clearly better alternative it is critical that the particular decision rules OMB decides to follow are documented and clearly communicated to agencies providing this data as well as end-users. Figure 2 provides a notional illustration of some of the different places of performance that agencies could report for federally funded road projects based on the current definitions of these data elements.

Figure 2: Current Definitions for *Primary Place of Performance* Data Elements Could Be Interpreted in a Variety of Ways



Source: GAO analysis of Office of Management and Budget and Treasury information. | GAO-16-261

Note: OMB and Treasury issued four standardized data elements to encompass the concept of *Primary Place of Performance*. For the purposes of this illustration, we present *Primary Place of Performance* as a single concept composed of these data elements.

Despite the potential for multiple interpretations of what should be reported for *Primary Place of Performance*, OMB staff told us that federal agencies have not raised this as a significant reporting challenge. However, feedback OMB and Treasury received from both federal and nonfederal stakeholders identified a number of concerns with these definitions including the need to more clearly define what is meant by “primary” place of performance and how to interpret the word “performance” for this definition. In responding to this feedback, OMB and Treasury acknowledged the difficulty of addressing stakeholder concerns through a single data element and that in the future, as part of their plans to adopt a more formal data governance structure, they expect to identify

and standardize other location-related data elements to address other needs.

The Data Element Definition for Program Activity Adheres to Leading Practices; However, More Guidance Is Needed to Ensure Program-Related Data Are Consistent and Comparable

In some cases OMB and Treasury will need to take additional steps to make data standards consistent and comparable for federal and nonfederal entities. For example, OMB and Treasury standardized the definition of *Program Activity* as required by the DATA Act and we found that this definition adhered to all 13 ISO leading practices. However, concerns still remain regarding the use of this data element. For example, OMB's and Treasury's guidance on *Program Activity* acknowledges that program activities can change from one year to the next and that *Program Activity* does not necessarily match "programs" as specified in the GPRA Modernization Act of 2010 or the Catalog of Federal Domestic Assistance. In responding to this guidance, officials at USDA said that when program activities change it is difficult to make comparisons of federal spending over time.

Moreover, USDA officials noted that more guidance is needed to ensure that the public can accurately interpret *Program Activity* compared to the other common representations of federal programs. In our July 2015 testimony on DATA Act implementation, we reported that OMB and Treasury will need to build on the program activity structure and provide agencies with guidance if they are to meet one of the stated purposes of the DATA Act to link federal contract, loan, and grant spending information to federal programs to enable taxpayers and policy makers to track federal spending more effectively.²¹ In that testimony, we made a recommendation that OMB accelerate efforts to develop a federal program inventory to ensure that federal program spending data are provided to the public in a transparent, useful, and timely manner. During the hearing, an OMB official testified that, because the staff that would be involved in working on the program inventories is heavily involved in DATA Act implementation, he would not expect an update of the program inventories to happen before May 2017.

Much remains to be done to effectively implement standard data element definitions across the federal government in a consistent and comparable way for reporting purposes. OMB and Treasury told us that they are

²¹[GAO-15-752T](#).

making policy decisions and developing guidance to help agencies with implementing data standards. They expect to issue this guidance in spring 2016, and we will review it at that time. Consequently, many issues remain unanswered regarding the extent to which agencies may need to change their policies, processes, and systems in order to report their financial data in compliance with the act. A senior HHS official told us that they have communicated to OMB and Treasury that in the absence of detailed guidance related to the policy, process, and technology changes that accompany the data element definitions, agencies cannot develop effective implementation plans or appropriately commit the necessary resources toward implementing the DATA Act because implementation efforts and timelines are highly dependent on this information. Agencies must begin reporting data using the data definitions established under the DATA Act by 2017. It remains uncertain the extent to which these data will be consistent and comparable if OMB and Treasury do not address concerns with the quality of data definitions.

OMB and Treasury Addressed Initial Challenges with the Technical Schema, but the Lack of Finalized Technical Guidance Could Impede Agency Implementation

The DATA Act calls for OMB and Treasury to establish government-wide data standards, to the extent reasonable and practicable, that produce consistent and comparable data available in machine-readable formats.²² Treasury has taken the lead in drafting a technical schema intended to standardize the way financial assistance awards, contracts, and other financial data will be collected and reported under the DATA Act.²³ Toward that end, the technical schema describes the standard format for data elements including their description, type, and length. In July 2015, we identified several potential concerns with version 0.2 of the schema, including that the schema might not prevent inconsistent reporting because it allowed alphabetic characters to be entered into a data field that should only accept numeric data.²⁴ We also noted that the schema did not identify a computer markup language that agencies can use for communicating financial data standards. Identification of such a language provides standards for annotating or tagging information so that data can

²²FFATA, §§ 2(c)(7), 4(b)(3), (6).

²³OMB has taken the lead to standardize data element definitions, while Treasury is leading efforts to develop the technical schema and intermediary service (referred to as the data “broker”) to extract and validate agency data submissions.

²⁴[GAO-15-752T](#).

be transmitted over the Internet and can be readily interpreted by a variety of computer systems.

OMB and Treasury addressed several of the concerns we raised in version 0.6 of the DATA Act schema issued in October 2015. For example, version 0.6 of the schema addressed inconsistencies between machine-readable and human-readable documentation and simplified the schema so that data elements, names, and definitions are consistent across all award types including grants, loans, and contracts. According to Treasury officials, subsequent versions of the schema will include additional information about complex data types and introduce extensible business reporting language (XBRL) formats in preparation for version 1.0.²⁵ Treasury planned to issue version 1.0 by December 31, 2015, which it said would provide a more stable base to help agencies understand how to map their financial and award information to adhere to DATA Act requirements. However, instead of releasing version 1.0 as planned, they released another interim version—version 0.7. According to Treasury, this version incorporates additional financial data elements and attributes that are intended to support more accurate and detailed financial and budgetary accounting information.

Given the importance of having a largely stable schema to serve as the foundation for developing subsequent technical processes at the agency level, any significant delay in releasing version 1.0 of the schema will likely have consequences for timely implementation of the act. Treasury officials told us they are not prepared to provide a time frame for completion of version 1.0. As previously mentioned, OMB's and Treasury's DATA Act Implementation Playbook outlines eight specific steps and timelines for implementing the DATA Act at the agency level. However, in some cases guidance that would help agencies carry out these steps has not been provided in time to coincide with when the agency was expected to carry out key activities outlined in the DATA Act Implementation Playbook. For example, step 3 of the 8-step plan calls for agencies to inventory agency data and associated business processes from February to September 2015 to identify where there are gaps in the data that are collected. OMB and Treasury provided technical tools including a template to help agencies inventory their financial and awards

²⁵XBRL is an international standard for digital reporting of financial, performance, risk and compliance information, although it is also used for many other types of reporting.

data to identify any gaps that could impede standardization. However, a stable DATA Act schema that specifies the form and content the data should be reported in was not available to agencies to help them fully carry out this step.

Corporation for National and Community Service (CNCS) officials told us that because operational details for how data are to be exchanged have not yet been finalized, the agency has not taken steps to map agency financial and awards data to the schema. Treasury officials told us, that because they are using an iterative approach to technical implementation, they have not finalized an architecture for the collection and dissemination of government-wide data that could provide agencies with a description of the various technology layers, interoperability and structures, and reporting languages that they will be expected to use beginning in May 2017. In the absence of a clear and consistent set of technical specifications, agency technical staff, enterprise resource planning (ERP) vendors,²⁶ and others tasked with adapting Treasury's schema to work with the financial and award management environment at individual federal agencies may delay plans to carry out key steps until the schema is finalized. Alternatively, if agencies decide to move ahead and then significant changes are subsequently made to the schema, agencies could incur additional costs to revise their systems and processes to conform to a later version.

In addition to the draft technical schema, Treasury is developing an intermediary service called a "broker" to standardize data formatting and assist reporting agencies in validating their data submissions before they are submitted to Treasury. As part of this effort, Treasury recently completed a limited-use pilot test of the broker service with the Small Business Administration (SBA) to test agency data submissions. Treasury has future plans to develop and test a broker prototype for contracts. The pilot demonstrated a broker prototype that could extract data from SBA's grant and financial systems, perform data validation, and convert data to the DATA Act schema for submission to Treasury's database. A Treasury official acknowledged, however, that it may be more difficult for larger or more complex agencies to extract their data and perform these necessary functions.

²⁶Enterprise resource planning (ERP) vendors provide an integrated suite of business applications to some federal agencies for financial management purposes.

In September 2015, Treasury posted the limited-use SBA broker prototype on GitHub, a public online collaboration website, so that agencies and the public could begin reviewing the broker prototype.²⁷ Treasury also made a set of high-level conceptual models available to agencies on MAX.gov to help them understand how they might extract data from their own financial and award systems.²⁸ Treasury told us that they plan to build and host a centralized broker service, but have not specified a time frame when it will be available. In addition, Treasury is exploring the option to allow agencies to use the Treasury broker service locally to work within their own operational environments. According to these officials, agencies may also choose to work through ERP vendors who could develop commercial products that would be made available to agencies.

However, because the SBA broker prototype was primarily tested on grants, a broker prototype that extracts and validates data from other types of awards, such as contracts and loans, is still not available to agencies. Moreover, little is known about how the prototype would work with other forms of awards, which are often located in different systems and use different definitions. Agencies need this information to begin testing the broker using their own data so they can develop effective strategies for data submission within the time frame—October 2015 to February 2016—prescribed in the DATA Act Implementation Playbook. The prototype tested grants data from SBA’s award system which is already linked to SBA’s financial management system through unique award identifiers. It is not known whether and how the broker prototype would work for a number of agencies that have financial and award systems that are not yet linked. According to a Treasury official, most agencies have not established linkages between their financial and award systems.

²⁷GitHub is a web-based software repository hosting service. OMB and Treasury have established a DATA Act collaboration website on GitHub to obtain input on the development of data standards. This website can be found at <http://fedspendingtransparency.github.io>.

²⁸OMB hosts an online collaboration space on MAX.gov to provide executive branch agencies with updates and additional guidance on DATA Act implementation. This website, accessible only to executive branch agencies, can be found at <https://community.max.gov/x/BYbyL>.

Our review of three selected agency implementation plans and interviews with agency officials indicates that agencies are waiting for technical guidance on the broker service so that they can begin to develop plans to extract data from their current systems and map it to the DATA Act schema. For example, CNCS's implementation plan submitted to OMB in September of 2105 cites the lack of information about the broker as a significant challenge that could impede effective implementation of the data standards and new reporting requirements. As a result of this uncertainty, USDA officials told us that they decided to move ahead with the development of its own broker to compile and validate its data centrally and then forward it on to Treasury. Moreover, USDA officials noted that since much of Treasury's technical guidance to date has focused on grants and cooperative agreements little is known about how the broker service would work with other financial assistance awards such as loans and insurance programs.

Selected Agencies Have Taken Initial Steps to Implement Data Standards

The three agencies in our review—the Corporation for National and Community Service (CNCS), the Department of Health and Human Services (HHS), and the Department of Agriculture (USDA)—have begun addressing the requirements of the DATA Act by forming DATA Act teams, participating in government-wide deliberations on data standards, developing an inventory of their data, identifying systems containing pertinent data and the associated business practices, and assessing the policy, process, and technology changes that may be needed for successful implementation. In addition to providing guidance in the DATA Act Implementation Playbook, OMB and Treasury have regularly engaged agency officials to address questions and concerns related to implementing data standards. This outreach has included monthly conference calls with agency senior accountable officials (SAO), posted office hours for agencies to obtain feedback on the implementation process and raise OMB's and Treasury's awareness regarding specific implementation challenges, and a biweekly digest that is distributed to SAOs to keep agency staff informed about recent and upcoming DATA Act activities. Table 3 provides additional information regarding the status of DATA Act implementation activities for these three agencies.

Table 3: Status of DATA Act Implementation for Three Selected Agencies

DATA Act Implementation Playbook 8-step plan for agency implementation (and time frames)	Implementation status at selected agencies as of December 2015 (Corporation for National and Community Service (CNCS), the Department of Agriculture (USDA), and the Department of Health and Human Services (HHS))
<p>Step 1 Organize DATA Act teams and appoint a senior accountable official (SAO) (Spring 2015)</p>	<p>All three selected agencies (HHS, USDA, and CNCS) have designated an SAO and established DATA Act implementation teams that are composed of representatives from budget, financial assistance, procurement, financial management, and systems/information technology communities.</p>
<p>Step 2 Review proposed data element definitions and participate in the data element standardization process (Spring 2015)</p>	<p>Each selected agency also participated in the standardization process by providing ongoing feedback to the DATA Act Interagency Advisory Committee through their membership on various interagency councils such as the Award Committee for e-Government, the Financial Assistance Committee for e-Government, the Budget Officers Advisory Council, and the Chief Financial Officers Council.^a</p>
<p>Step 3 Inventory agency data and associated business processes to identify gaps (February 2015-September 2015)</p>	<p>All three selected agencies have begun inventorying their data.</p> <p>CNCS officials told us they leveraged their ongoing financial management systems modernization efforts to identify data sources and assess the agency's readiness to comply with DATA Act reporting requirements.</p> <p>HHS officials told us they conducted an initial survey of HHS's reporting communities and identified gaps including where data are stored in specific systems and inconsistencies in the way the data are used across various systems. HHS initiated a Critical Systems Assessment process to build on the lessons learned from its initial data inventory process.</p> <p>USDA's data inventory process is ongoing with results expected in 2016.</p>
<p>Step 4 Assess status of agency financial and award system linkages and develop an implementation plan (March 2015-September 2015)</p>	<p>All three selected agencies submitted implementation plans concurrent with their 2017 budget submissions.</p> <p>CNCS has a fully integrated financial management and procurement system and a grants management system that is linked to the agency's financial management system through a unique award identifier.</p> <p>All but two USDA agencies use a single centralized financial management system, an integrated acquisitions system, and a centralized grant award system. USDA is exploring solutions for integrating awards processed outside of centralized systems.</p> <p>HHS's financial and award systems are not currently linked with the same award ID number. HHS initiated an integrated project team to examine ways to ensure that financial and award systems could be linked by a standard award ID number. According to HHS officials, the biggest challenge is standardizing the award ID across the agency, without losing the business intelligence built into the various award identification numbers.</p>
<p>Step 5 Execute the broker service by extracting data from agency source systems and, mapping to the DATA Act schema (October 2015-February 2016)</p>	<p>The three agencies have not developed plans to execute the broker service being developed by Treasury because it has not been finalized.</p> <p>CNCS will rely on a broker service developed by its enterprise resource planning vendor, according to CNCS officials.</p> <p>USDA has started to develop its own process to extract data from agency financial and award systems into a central data mart to be mapped to the DATA Act schema through the Treasury broker.</p> <p>HHS officials reported that HHS is monitoring Treasury's broker development, but has not made plans to execute the broker service because clear guidance on this process from Treasury is pending.</p>

DATA Act Implementation Playbook 8-step plan for agency implementation (and time frames)**Implementation status at selected agencies as of December 2015 (Corporation for National and Community Service (CNCS), the Department of Agriculture (USDA), and the Department of Health and Human Services (HHS))****Step 6**

Test broker outputs to ensure data are valid

(October 2015-February 2016)

CNCS and **HHS** are awaiting additional guidance before they take steps to test a broker service, according to officials at each agency; **USDA** began testing the broker prototype in early December 2015.

Step 7

Update systems to implement required system changes

(October 2015-February 2017)

The three agencies have not yet taken this step.

Step 8

Submit data

(March 2016-May 9, 2017)

This step is not scheduled to begin until March 2016.

Source: GAO analysis of OMB and Treasury DATA Act Implementation Playbook and selected agency implementation plans. | GAO-16-261

^aThe Interagency Advisory Committee is charged with representing the numerous business and functional communities across the government that have stakes in DATA Act implementation. The membership includes representatives of the Chief Financial Officers Council, the Budget Officers Advisory Council, the Award Committee for E-Government, the Council on Financial Assistance Reform, the Chief Acquisition Officers Council, the Chief Information Officers Council, and the Performance Improvement Council, and the Council of the Inspectors General on Integrity and Efficiency, among others.

Conclusions

Once fully and effectively implemented, the DATA Act holds great promise for improving the transparency and accountability of federal spending data by providing consistent, reliable, and complete data on federal spending. In order to fully and effectively implement the DATA Act, the federal government will need to address complex policy and technical issues. Central among these is defining and developing common data elements across multiple reporting areas and standing up the necessary supporting systems and processes to enable reporting of the federal spending data required by the DATA Act. Toward that end, OMB and Treasury have made progress since the act was signed into law in May 2014, including issuing definitions for 57 data elements, developing an 8-step plan and timelines for agencies to follow as they move through the implementation process, and providing a variety of outreach approaches to address agency questions and to obtain feedback from federal and nonfederal stakeholders.

The implementation accomplishments to date exist alongside continued challenges that OMB and Treasury need to address in order to successfully meet the requirements and objectives of the act. Although the majority of the 57 data element definitions generally follow leading practices, we identified limitations with some data element definitions and their documentation that, if not addressed, could lead to inconsistent

reporting, and limit the ability to meaningfully aggregate or compare data for these elements across the federal government. Moreover, the standards will be of little value if agencies are not prepared to collect and report quality data in conformance with the standards. Therefore, it is of vital importance that OMB and Treasury provide federal agencies with timely information and support so that they are in a position to effectively implement these standards. We provided OMB and Treasury with input on identified challenges related to the data element definitions and draft technical schema to help ensure these challenges are addressed as implementation progresses. Moreover, as agencies work through the 8-step implementation process, it will be important for OMB and Treasury to provide them with finalized technical guidance that can serve as a foundation for developing the necessary systems and processes for agency implementation. If guidance is not timed to coincide with agencies' expected milestones for key steps in the implementation process, agencies could incur additional costs as they revise implementation plans to align with later versions of the guidance or could be forced to delay implementation.

Recommendations for Executive Action

1. To help ensure that agencies report consistent and comparable data on federal spending, we recommend that the Director of OMB, in collaboration with the Secretary of the Treasury, provide agencies with additional guidance to address potential clarity, consistency, or quality issues with the definitions for specific data elements including *Award Description* and *Primary Place of Performance* and that they clearly document and communicate these actions to agencies providing this data as well as to end-users.
2. To ensure that federal agencies are able to meet their reporting requirements and timelines, we recommend that the Director of OMB, in collaboration with the Secretary of the Treasury, take steps to align the release of finalized technical guidance, including the DATA Act schema and broker, to the implementation time frames specified in the DATA Act Implementation Playbook.

Agency Comments and Our Evaluation

We provided a draft of this report to the Director of OMB, the Secretaries of the Treasury, HHS and USDA, and the Chief Executive Officer of CNCS for review and comment. Both OMB and Treasury submitted written comments, which provided additional clarifying information related to our recommendations. OMB's and Treasury's written comments are discussed below and reproduced in appendixes IV and V respectively. In

addition, OMB, Treasury, CNCS, and HHS provided technical comments, which we incorporated as appropriate, and USDA had no comments.

In his written response, the OMB Controller generally concurred with our first recommendation to provide agencies with additional guidance to address potential clarity, consistency, or quality issues with data element definitions. However, in the discussion of OMB's efforts to date to expand and improve federal spending transparency, the OMB Controller distinguished between the 11 data elements that were standardized in May 2015 and the remaining 46 data elements that were issued in August 2015. OMB interpreted the DATA Act requirement to standardize data elements as only applying to the 11 data elements, and indicated that the remaining 46 elements were standardized pursuant to the overarching policy goal of improving the consistency of federal spending data on USAspending.gov. OMB stated that the additional 46 data elements provided an opportunity to increase comparability and data quality.

However, both the statutory language and the purposes of the DATA Act support the interpretation that OMB and Treasury were required to establish data standards for award and awardee information in addition to account level information. The DATA Act states that the financial data standards OMB and Treasury are required to establish are to include financial and payment information required to be reported by federal agencies and entities receiving federal funds.²⁹ Such information reported by entities receiving federal funds is information on awards and awardees, not account-level financial data. The act further provides that the data standards are to include, to the extent reasonable and practical, unique identifiers for federal awards and entities receiving federal awards.³⁰ However, OMB does not interpret *Award Identification Number* and *Awardee/Recipient Unique Identifier* to be among those data elements they are required to standardize pursuant to the DATA Act. Lastly, OMB's interpretation is inconsistent with Congress's intent when it passed the DATA Act. As described in the legislative history of the act, Congress sought to address the known data quality issues with award and awardee information that had been reported under FFATA. To

²⁹FFATA, § 4(a)(2).

³⁰FFATA, § 4(b)(3).

accomplish this, data standards for those elements were necessary.³¹ Without data standards for award and awardee information, the inconsistent and non-comparable reporting under FFATA that Congress sought to remedy through the DATA Act would continue. For these reasons, we conclude that the requirement in the DATA Act to establish data standards applies not only to account-level information, but also to award and awardee information. This is an important distinction for ensuring that federal agencies are held appropriately accountable for the completeness, quality, and accuracy of the spending data to be reported in the years to come.

In addition to responding to the recommendations made in this report, OMB also addressed the recommendation made in our July 2015 testimony which called on OMB to accelerate efforts to determine how best to merge DATA Act purposes and requirements with requirements under the GPRA Modernization Act of 2010 (GPRAMA) to produce a federal program inventory.³² In response to this recommendation, the OMB Controller noted that OMB promulgated guidance in OMB Circular A-11, Sections 82 and 83, requiring agencies to start submitting object class and program activity information from their accounting systems to OMB. We recognize that requiring agencies to submit data on object class and program activity may be a step toward meeting the requirement of the DATA Act to report this information and may contribute toward the broader effort of developing a federal program inventory as required by GPRAMA. However, much still remains to be done in order to produce such an inventory. We continue to believe, as we previously recommended, that OMB should accelerate those efforts and we will continue to monitor progress in meeting this statutory requirement.

³¹H.R. Rep. No. 113-270 at 9 (2014); S. Rep. 113-139 at 4-5 (2014). The House of Representatives report explains the importance of establishing data standards for all types of information this way: “Significantly, the usefulness of both USAspending.gov and Recovery.gov is hampered by the federal government’s long-term failure to adopt common data elements and reporting standards for electronic financial information. For example, there is no system of identifier codes for all federal awards; instead, every agency separately tracks grants, contracts, and loans using its own distinct system. Similarly, there is no system of identifier codes for all recipients of federal grants, contracts, and loans; no master list of all federal programs; and, in fact, no agreed system of agency codes. Without government-wide identifiers for awards, recipients, programs, agencies, and other data elements, sophisticated electronic searches and comparisons will be impossible, even under a comprehensive spending transparency mandate.”

³²GAO, *DATA Act: Progress Made in Initial Implementation but Challenges Must be Addressed as Efforts Proceed*, [GAO-15-752T](#) (Washington, D.C.: July 29, 2015).

Regarding our recommendation to align the release of finalized technical guidance to the implementation timelines specified in the DATA Act Implementation Playbook, OMB deferred matters of technical operationalization to Treasury, which has program responsibility for technical implementation.

In their written response, Treasury officials deferred our first recommendation to provide agencies with additional guidance to address potential clarity, consistency, or quality issues with data element definitions to OMB. Regarding our second recommendation to align the release of finalized technical guidance to the implementation timelines specified in the DATA Act Implementation Playbook, Treasury officials generally concurred with our recommendation, noting that they recognize the importance of providing agencies with timely technical guidance and reporting submission specifications.

We are sending copies of this report to the heads of the Departments of Agriculture, Health and Human Services, Treasury, OMB, and the Corporation for National and Community Service, as well as interested congressional committees 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 has any questions about this report, please contact me at (202) 512-6806 or sagerm@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 VI.



Michelle Sager
Director, Strategic Issues

List of Congressional Committees

The Honorable Ron Johnson
Chairman
The Honorable Thomas R. Carper
Ranking Member
Committee on Homeland Security and Governmental Affairs
United States Senate

The Honorable Mark R. Warner
Chairman
Task Force on Government Performance
Committee on the Budget
United States Senate

The Honorable Jason Chaffetz
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The Honorable Elijah E. Cummings
Ranking Member
Committee on Oversight and Government Reform
House of Representatives

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

The Honorable Will Hurd
Chairman
The Honorable Robin Kelly
Ranking Member
Subcommittee on Information Technology
Committee on Oversight and Government Reform
House of Representatives

Appendix I: Objectives, Scope, and Methodology

This report (1) identifies steps taken by the Office of Management and Budget (OMB) and the Department of Treasury (Treasury) to establish government-wide data element definitions and the extent to which those definitions are consistent with leading practices or face challenges that could affect data quality; (2) reviews efforts by OMB and Treasury to provide agencies with technical implementation guidance to standardize how data are collected and reported and related challenges; and (3) examines the status of selected federal agencies' progress in meeting DATA Act requirements. This review is a part of an ongoing effort to provide interim reports on the progress being made in the implementation of the DATA Act, while also meeting our audit reporting requirements mandated by the act.

For the first objective, we reviewed our past work that raised concerns about the quality of federal spending data on USAspending.gov to inform our review of OMB's and Treasury's efforts to establish data standards. We analyzed the definitions of the 57 data elements issued May 8, 2015 through August 31, 2015, and assessed the extent to which the data definitions are consistent with DATA Act requirements and leading practices from standards set by the International Organization for Standardization (ISO).

To assess the extent to which the data standards are consistent with ISO standards, we had two analysts independently rate each of the 57 data element definitions against all 13 ISO leading practices and determine whether the data element (1) met the ISO leading practice, (2) did not meet the ISO leading practice, (3) partially met the ISO leading practice, or (4) whether the ISO leading practice was not applicable to the particular data element definition. When the two raters independently came to the same rating for a particular leading practice and data element definition, the raters were considered to be in concurrence and the agreed upon rating was carried forward as the assessment of record. After the first round of assessments, the initial raters were in concurrence on 630 of 741 necessary assessments. When the two raters independently came to different ratings for a particular leading practice and data element definition, a third rater independently assessed those data element definitions and leading practices to attempt to reach concurrence. This was necessary in 111 cases. When the third rater independently came to the same rating as one of the initial two raters, that rating was carried forward as the assessment of record. After this second round of assessments, the raters were in concurrence on 727 of 741 necessary assessments. When the third rater came to a different rating as both of the initial two raters for a particular leading practice and

data element definition, the three raters met to discuss their application of the leading practice to the data element definition and come to consensus on a final assessment of record. After these discussions, the raters were in concurrence on 741 of 741 necessary assessments.

For data element definitions related to federal budget terms, we supplemented our analysis with a legal review to ensure assessments were both accurate and complete. For purposes of reporting, when the final assessment of record was that a given data element definition met or partially met the ISO leading practice or that the ISO leading practice was not applicable, the data element definition was considered to adhere to the given leading practice. For the purposes of aggregating our assessments, we considered a “partial” response to be a “yes” because the ISO standards represented leading practices and not firm requirements for OMB and Treasury to follow. Therefore, we erred on the side of giving the agencies credit for the contents of their definitions meeting parts of the leading practice. When the assessment of record was “no” the data element definition was considered as not adhering to the given leading practice.

For the second objective assessing OMB’s and Treasury’s development of a technical schema that specifies the format, structure, tagging, and transmission of each data element to allow consistency and comparability, we consulted the U.S. Digital Services Playbook and we reviewed and analyzed differences between version 0.2, version 0.5, and version 0.6 of the schema.¹ We reviewed applicable agency guidance and documentation related to the data standards and technical schema on OMB’s and Treasury’s websites. We also interviewed knowledgeable agency officials about their standards-setting and technical schema development processes.

For the third objective, we selected three agencies for review—the Department of Health and Human Services, the Department of Agriculture, and the Corporation for National and Community Service. Using a three-step selection process, we looked for agencies that met

¹OMB and Treasury released version 0.1 of the DATA Act schema on March 30, 2015, and subsequently released additional versions in the following months: version 0.2 in May, version 0.5 in July, and version 0.6 in October. Versions 0.3 and 0.4 were not publicly released. On December 31, 2015, OMB and Treasury released version 0.7, which we have yet to fully review.

varying conditions: (1) compliance with requirements for federal financial management systems; (2) representation across multiple lines of business—grants, loans, and contracts; and (3) status as a Federal Shared Service Provider for financial management.² Table 4 shows each selected agency in relation to these criteria.

Table 4: Criteria for Agency Selection

Criteria	Department of Health and Human Services (HHS)	Department of Agriculture (USDA)	Corporation for National and Community Service (CNCS)
Compliance with requirements for federal financial management systems	Noncompliant with systems and U.S. Government Standard General Ledger (SGL) requirements of the Federal Financial Management Improvement Act of 1996 in fiscal year 2014.	Noncompliant with systems and SGL requirements of the Federal Financial Management Improvement Act of 1996 in fiscal year 2014.	Not applicable.
Representation across multiple lines of business—grants, contracts, and loans	In fiscal year 2013, HHS was represented across both grants and contracts.	In fiscal year 2013, USDA was represented across grants, contracts, and loans.	In fiscal year 2013, CNCS was represented across both grants and contracts.
Status as a Federal Shared Service Provider for financial management	HHS is not a Federal Shared Service Provider for financial management.	USDA is a Federal Shared Service Provider for financial management.	CNCS is not a Federal Shared Service Provider for financial management.

Source: GAO. | GAO-16-261

Although the results from our review of these three agencies are not generalizable to all agencies, they are designed to illustrate a range of conditions under which agencies are implementing the act.

We assessed whether the selected agencies submitted their implementation plans and identified a senior accountable official (SAO) to report on progress. We also reviewed the implementation plans and related project plans and interviewed agency DATA Act team members for their assessment of implementation progress, including what controls are in place to ensure data quality, the challenges they have encountered thus far, and the extent to which identified challenges could impede timely and effective implementation.

We conducted this performance audit from May 2015 to January 2016 in accordance with generally accepted government auditing standards.

²The full list of agencies we selected from included the 24 CFO Act agencies, as well as smaller agencies that already reported spending data to USAspending.gov under FFATA.

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 on our audit objectives.

Appendix II: Status of GAO's Open Recommendations and Matters for Congressional Consideration Related to the DATA Act

Report	Recommendation/matter for congressional consideration	Implementation status
<p>GAO-10-365: <i>Electronic Government: Implementation of the Federal Funding Accountability and Transparency Act of 2006</i> (March 2010)</p>	<ol style="list-style-type: none"> <li data-bbox="448 558 1024 827">1. To improve the accuracy, completeness, and timeliness of all data submissions to the Office of Management and Budget's (OMB) USAspending.gov website, the Director of OMB should revise guidance to federal agencies on reporting federal awards to clarify (1) the requirement that award titles describe the award's purpose; and (2) requirements for validating and documenting agency awards data submitted by federal agencies. <li data-bbox="448 837 1024 995">2. To improve the accuracy, completeness, and timeliness of all data submissions to OMB's USAspending.gov website, the Director of OMB should include information on the city where work is performed in OMB's public reporting of the completeness of agency data submissions. 	<p>Closed—not implemented. Provisions of the Digital Accountability and Transparency Act of 2014 could address this recommendation, but implementation will take several years.</p> <p>Closed—not implemented. OMB no longer uses the reporting mechanism discussed in the recommendation.</p>
<p>GAO-13-758: <i>Federal Data Transparency: Opportunities Remain to Incorporate Lessons Learned as Availability of Spending Data Increases</i> (September 2013)</p>	<ol style="list-style-type: none"> <li data-bbox="448 1010 1024 1220">1. The Director of OMB, in collaboration with the members of the Government Accountability and Transparency Board, should develop a plan to implement comprehensive transparency reform, including a long-term timeline and requirements for data standards, such as establishing a uniform award identification system across the federal government. 	<p>Open. As a result of passage of the Digital Accountability and Transparency Act (DATA Act) in May 2014, OMB is working with the Department of the Treasury (Treasury) and other members of the Government Accountability and Transparency Board to develop a long-term strategy to implement key transparency reforms including government-wide data standards. We will continue to monitor the progress of their efforts to implement key provisions of the act.</p>
<p>GAO-14-476: <i>Data Transparency: Oversight Needed to Address Underreporting and Inconsistencies on Federal Award Website</i> (June 2014)</p>	<ol style="list-style-type: none"> <li data-bbox="448 1335 1024 1709">1. To improve the completeness and accuracy of data submissions to the USAspending.gov website, the Director of OMB, in collaboration with Treasury's Fiscal Service, should clarify guidance on (1) agency responsibilities for reporting awards funded by non-annual appropriations; (2) the applicability of USAspending.gov reporting requirements to non-classified awards associated with intelligence operations; (3) the requirement that award titles describe the award's purpose (consistent with our prior recommendation); and (4) agency maintenance of authoritative records adequate to verify the accuracy of required data reported for use by USAspending.gov. 	<p>Open. OMB and Treasury are working to implement the DATA Act, which includes several provisions that could address our recommendations once fully implemented.</p>

**Appendix II: Status of GAO's Open
Recommendations and Matters for
Congressional Consideration Related to the
DATA Act**

Report	Recommendation/matter for congressional consideration	Implementation status
	<p>2. To improve the completeness and accuracy of data submissions to the USAspending.gov website, the Director of OMB, in collaboration with Treasury's Fiscal Service, should develop and implement a government-wide oversight process to regularly assess the consistency of information reported by federal agencies to the website other than the award amount.</p>	<p>Open. As part of their DATA Act implementation efforts, OMB and Treasury have outlined a process for agencies to identify authoritative systems to validate agency spending information. In addition, the inspector general community is working on standard audit methodologies to verify the accuracy and completeness of agency reporting. Implementation of these efforts is planned to begin in fiscal year 2016.</p>
<p>GAO-15-752T: DATA Act: Progress Made in Initial Implementation but Challenges Must be Addressed as Efforts Proceed (July 2015)</p>	<p>1. To ensure that federal program spending data are provided to the public in a transparent, useful, and timely manner, the Director of OMB should accelerate efforts to determine how best to merge DATA Act purposes and requirements with the GPRAMA requirement to produce a federal program inventory.</p>	<p>Open. In commenting on a draft of this statement in July 2015, OMB staff stated that they neither agreed nor disagreed with this recommendation. Testifying before two subcommittees of the House Oversight and Government Reform Committee on July 29, 2015, OMB's Acting Deputy Director for Management and Controller stated that the agency planned to address the issue of identifying "programs" for the purposes of DATA Act reporting but that such efforts would likely not start until sometime in fiscal year 2016, and would not be completed until after May 2017.</p>
	<p>2. To ensure that the integrity of data standards is maintained over time, the Director of OMB, in collaboration with the Secretary of the Treasury, should establish a set of clear policies and processes for developing and maintaining data standards that are consistent with leading practices for data governance.</p>	<p>Open. In an August 31, 2015, whitepaper published on their DATA Act collaboration website, OMB and Treasury stated their intent to address this recommendation by working to establish in fiscal year 2016 a formal, long-term governance process and structure for future data standards maintenance. This governance structure would be the forum to review recommendations for new data elements to be reported to USAspending.gov and for additional data standards to be adopted moving forward.</p>
	<p>3. To ensure that interested parties' concerns are addressed as implementation efforts continue, the Director of OMB, in collaboration with the Secretary of the Treasury, should build on existing efforts and put in place policies and procedures to foster ongoing and effective two-way dialogue with stakeholders including timely and substantive responses to feedback received on the Federal Spending Transparency GitHub website.</p>	<p>Open. In commenting on a draft of the statement in July 2015, OMB staff stated that they neither agreed nor disagreed with this recommendation.</p>

**Appendix II: Status of GAO's Open
Recommendations and Matters for
Congressional Consideration Related to the
DATA Act**

Report	Recommendation/matter for congressional consideration	Implementation status
<p>GAO-15-814: <i>Federal Spending Accountability: Preserving Capabilities of Recovery Operations Center Could Help Sustain Oversight of Federal Expenditures</i> (September 2015)</p>	<p>1. To capitalize on the opportunity created by the DATA Act, the Secretary of the Treasury should reconsider whether certain assets—especially information and documentation such as memoranda of understanding (MOUs) that would help transfer the knowledge gained through the operation of the Recovery Operations Center—could be worth transferring to the Do Not Pay Center Business Center to assist in its mission to reduce improper payments. Additionally, the Secretary should document the decision on whether Treasury transfers additional information and documentation and what factors were considered in this decision.</p>	<p>Open. Treasury concurred with our recommendation that it should consider additional knowledge transfers from the Recovery Operations Center to assist in the Do Not Pay Center Business Center's mission to reduce improper payments and will document its rationale and final decision in this regard..</p>
	<p>Matter for Congressional Consideration:</p> <p>1. To help preserve a proven resource supporting the oversight community's analytic capabilities, Congress may wish to consider directing the Council of the Inspectors General on Integrity and Efficiency (CIGIE) to develop a legislative proposal to reconstitute the essential capabilities of the Recovery Operations Center to help ensure federal spending accountability. The proposal should identify a range of options at varying scales for the cost of analytic tools, personnel, and necessary funding, as well as any additional authority CIGIE may need to ensure such enduring, robust analytical and investigative capability for the oversight community.</p>	<p>Open.</p>

Source: GAO. | GAO-16-261

Appendix III: Definitions of Issued Data Elements

This appendix lists the data elements and their definitions broken out by type, as issued by the Office of Management and Budget (OMB) and the Department of Treasury (Treasury) on May 8, 2015 and August 31, 2015.

Account Level Data Standards: These data elements describe the appropriations accounts from which agencies fund Federal awards.

Data Element	Data Definition
Appropriations Account	<p>The basic unit of an appropriation generally reflecting each unnumbered paragraph in an appropriation act. An appropriation account typically encompasses a number of activities or projects and may be subject to restrictions or conditions applicable to only the account, the appropriation act, titles within an appropriation act, other appropriation acts, or the Government as a whole.</p> <p>An appropriations account is represented by a TAFS created by Treasury in consultation with OMB (defined in OMB Circular A-11).</p>
Budget Authority Appropriated	<p>A provision of law (not necessarily in an appropriations act) authorizing an account to incur obligations and to make outlays for a given purpose. Usually, but not always, an appropriation provides budget authority (defined in OMB Circular A-11).</p>
Object Class	<p>Categories in a classification system that presents obligations by the items or services purchased by the Federal Government. Each specific object class is defined in OMB Circular A-11 § 83.6 (defined in OMB Circular A-11).</p>
Obligation	<p>Obligation means a legally binding agreement that will result in outlays, immediately or in the future. When you place an order, sign a contract, award a grant, purchase a service, or take other actions that require the Government to make payments to the public or from one Government account to another, you incur an obligation. It is a violation of the Antideficiency Act (31 U.S.C. § 1341(a)) to involve the Federal Government in a contract or obligation for payment of money before an appropriation is made, unless authorized by law. This means you cannot incur obligations in a vacuum; you incur an obligation against budget authority in a Treasury account that belongs to your agency. It is a violation of the Antideficiency Act to incur an obligation in an amount greater than the amount available in the Treasury account that is available. This means that the account must have budget authority sufficient to cover the total of such obligations at the time the obligation is incurred. In addition, the obligation you incur must conform to other applicable provisions of law, and you must be able to support the amounts reported by the documentary evidence required by 31 U.S.C. § 1501. Moreover, you are required to maintain certifications and records showing that the amounts have been obligated (31 U.S.C. § 1108). Additional detail is provided in Circular A-11.</p>
Other Budgetary Resources	<p>New borrowing authority, contract authority, and spending authority from offsetting collections provided by Congress in an appropriations act or other legislation, or unobligated balances of budgetary resources made available in previous legislation, to incur obligations and to make outlays (defined in OMB Circular A-11).</p>
Outlay	<p>Payments made to liquidate an obligation (other than the repayment of debt principal or other disbursements that are “means of financing” transactions). Outlays generally are equal to cash disbursements but also are recorded for cash-equivalent transactions, such as the issuance of debentures to pay insurance claims, and in a few cases are recorded on an accrual basis such as interest on public issues of the public debt. Outlays are the measure of Government spending (defined in OMB Circular A-11).</p>
Program Activity	<p>A specific activity or project as listed in the program and financing schedules of the annual budget of the United States Government (defined in OMB Circular A-11).</p>

Appendix III: Definitions of Issued Data Elements

Data Element	Data Definition
Treasury Account Symbol (excluding sub-account)	<p>Treasury Account Symbol: The account identification codes assigned by the Department of the Treasury to individual appropriation, receipt, or other fund accounts. All financial transactions of the Federal Government are classified by TAS for reporting to the Department of the Treasury and the Office of Management and Budget (defined in OMB Circular A-11).</p> <p>Treasury Appropriation Fund Symbol: The components of a Treasury Account Symbol – allocation agency, agency, main account, period of availability and availability type – that directly correspond to an appropriations account established by Congress (defined in OMB Circular A-11).</p>
Unobligated Balance	Unobligated balance means the cumulative amount of budget authority that remains available for obligation under law in unexpired accounts at a point in time. The term “expired balances available for adjustment only” refers to unobligated amounts in expired accounts. Additional detail is provided in Circular A-11.
Award Characteristic Data Standards: These data elements describe characteristics that apply to specific financial assistance and/or procurement awards	
Data Element	Data Definition
Action Date	The date the action being reported was issued / signed by the Government or a binding agreement was reached.
Action Type	<p>Description (and corresponding code) that provides information on any changes made to the Federal prime award. There are typically multiple actions for each award.</p> <p>(Note: This definition encompasses current data elements ‘Type of Action’ for financial assistance and ‘Reason for Modification’ for procurement)</p>
Award Description	A brief description of the purpose of the award.
Award Identification (ID) Number	The unique identifier of the specific award being reported, i.e. Federal Award Identification Number (FAIN) for financial assistance and Procurement Instrument Identifier (PIID) for procurement.
Award Modification/Amendment Number	The identifier of an action being reported that indicates the specific subsequent change to the initial award.
Award Type	Description (and corresponding code) that provides information to distinguish type of contract, grant, or loan and provides the user with more granularity into the method of delivery of the outcomes.
Business Types	A collection of indicators of different types of recipients based on socio-economic status and organization / business areas.
Catalog of Federal Domestic Assistance (CFDA) Number	The number assigned to a Federal area of work in the Catalog of Federal Domestic Assistance.
Catalog of Federal Domestic Assistance (CFDA) Title	The title of the area of work under which the Federal award was funded in the Catalog of Federal Domestic Assistance.
North American Industrial Classification System (NAICS) Code	The identifier that represents the North American Industrial Classification System Code assigned to the solicitation and resulting award identifying the industry in which the contract requirements are normally performed.
North American Industrial Classification System (NAICS) Description	The title associated with the NAICS Code.

Appendix III: Definitions of Issued Data Elements

Data Element	Data Definition
Ordering Period End Date	For procurement, the date on which, for the award referred to by the action being reported, no additional orders referring to it may be placed. This date applies only to procurement indefinite delivery vehicles (such as indefinite delivery contracts or blanket purchase agreements). Administrative actions related to this award may continue to occur after this date. The period of performance end dates for procurement orders issued under the indefinite delivery vehicle may extend beyond this date.
Parent Award Identification (ID) Number	The identifier of the procurement award under which the specific award is issued, such as a Federal Supply Schedule. This data element currently applies to procurement actions only.
Period of Performance Current End Date	The current date on which, for the award referred to by the action being reported, awardee effort completes or the award is otherwise ended. Administrative actions related to this award may continue to occur after this date. This date does not apply to procurement indefinite delivery vehicles under which definitive orders may be awarded.
Period of Performance Potential End Date	For procurement, the date on which, for the award referred to by the action being reported if all potential pre-determined or pre-negotiated options were exercised, awardee effort is completed or the award is otherwise ended. Administrative actions related to this award may continue to occur after this date. This date does not apply to procurement indefinite delivery vehicles under which definitive orders may be awarded.
Period of Performance Start Date	The date on which, for the award referred to by the action being reported, awardee effort begins or the award is otherwise effective.
Primary Place of Performance Address	The address where the predominant performance of the award will be accomplished. The address is made up of six components: Address Lines 1 and 2, City, County, State Code, and ZIP+4 or Postal Code.
Primary Place of Performance Congressional District	U.S. congressional district where the predominant performance of the award will be accomplished. This data element will be derived from the Primary Place of Performance Address.
Primary Place of Performance Country Code	Country code where the predominant performance of the award will be accomplished.
Primary Place of Performance Country Name	Name of the country represented by the country code where the predominant performance of the award will be accomplished.
Record Type	Code indicating whether an action is an individual transaction or aggregated.
Award Amount Data Standards: These data elements describe characteristics that apply to amount information for financial assistance and/or procurement awards.	
Data Element	Data Definition
Amount of Award	The cumulative amount obligated by the Federal Government for an award, which is calculated by USAspending.gov or a successor site. For procurement and financial assistance awards except loans, this is the sum of Federal Action Obligations. For loans or loan guarantees, this is the Original Subsidy Cost.
Current Total Value of Award	For procurement, the total amount obligated to date on a contract, including the base and exercised options.
Federal Action Obligation	Amount of Federal Government's obligation, de-obligation, or liability, in dollars, for an award transaction.
Non-Federal Funding Amount	For financial assistance, the amount of the award funded by a non-Federal source(s), in dollars. Program Income (as defined in 2 C.F.R. § 200.80) is not included until such time that Program Income is generated and credited to the agreement.
Potential Total Value of Award	For procurement, the total amount that could be obligated on a contract, if the base and all options are exercised.

Appendix III: Definitions of Issued Data Elements

Awardee and Recipient Entity Data Standards: These data elements describe the recipients/awardees of Federal funds

Data Element	Data Definition
Awardee/Recipient Legal Entity Name	The name of the awardee or recipient that relates to the unique identifier. For U.S. based companies, this name is what the business ordinarily files in formation documents with individual states (when required).
Awardee/Recipient Unique Identifier	The unique identification number for an awardee or recipient. Currently the identifier is the 9-digit number assigned by Dun & Bradstreet referred to as the DUNS® number.
Highly Compensated Officer Name	<p>First Name: The first name of an individual identified as one of the five most highly compensated "Executives." "Executive" means officers, managing partners, or any other employees in management positions.</p> <p>Middle Initial: The middle initial of an individual identified as one of the five most highly compensated "Executives." "Executive" means officers, managing partners, or any other employees in management positions.</p> <p>Last Name: The last name of an individual identified as one of the five most highly compensated "Executives." "Executive" means officers, managing partners, or any other employees in management positions.</p>
Highly Compensated Officer Total Compensation	The cash and noncash dollar value earned by the one of the five most highly compensated "Executives" during the awardee's preceding fiscal year and includes the following (for more information see 17 C.F.R. § 229.402(c)(2)): salary and bonuses, awards of stock, stock options, and stock appreciation rights, earnings for services under non-equity incentive plans, change in pension value, above-market earnings on deferred compensation which is not tax qualified, and other compensation.
Legal Entity Address	The awardee or recipient's legal business address where the office represented by the Unique Entity Identifier (as registered in the System for Award Management) is located. In most cases, this should match what the entity has filed with the State in its organizational documents, if required. The address is made up of five components: Address Lines 1 and 2, City, State Code, and ZIP+4 or Postal Code.
Legal Entity Congressional District	The congressional district in which the awardee or recipient is located. This is not a required data element for non-U.S. addresses.
Legal Entity Country Code	Code for the country in which the awardee or recipient is located, using the ISO 3166-1 Alpha-3 GENC Profile, and not the codes listed for those territories and possessions of the United States already identified as "states."
Legal Entity Country Name	The name corresponding to the Country Code.
Ultimate Parent Legal Entity Name	The name of the ultimate parent of the awardee or recipient. Currently, the name is from the global parent DUNS® number.
Ultimate Parent Unique Identifier	The unique identification number for the ultimate parent of an awardee or recipient. Currently the identifier is the 9-digit number maintained by Dun & Bradstreet as the global parent DUNS® number.

Awarding Entity Data Standards: These data elements describe the characteristics of the entity that made the award.

Data Element	Data Definition
Awarding Agency Code	A department or establishment of the Government as used in the Treasury Account Fund Symbol (TAFS).
Awarding Agency Name	The name associated with a department or establishment of the Government as used in the Treasury Account Fund Symbol (TAFS).
Awarding Office Code	Identifier of the level <i>n</i> organization that awarded, executed or is otherwise responsible for the transaction.

Appendix III: Definitions of Issued Data Elements

Data Element	Data Definition
Awarding Office Name	Name of the level <i>n</i> organization that awarded, executed or is otherwise responsible for the transaction.
Awarding Sub Tier Agency Code	Identifier of the level 2 organization that awarded, executed or is otherwise responsible for the transaction.
Awarding Sub Tier Agency Name	Name of the level 2 organization that awarded, executed or is otherwise responsible for the transaction.
Funding Entity Data Standards: These data elements describe the characteristics of the entity that provided the funding for an award.	
Data Element	Data Definition
Funding Agency Code	The 3-digit CGAC agency code of the department or establishment of the Government that provided the preponderance of the funds for an award and/or individual transactions related to an award.
Funding Agency Name	Name of the department or establishment of the Government that provided the preponderance of the funds for an award and/or individual transactions related to an award.
Funding Office Code	Identifier of the level <i>n</i> organization that provided the preponderance of the funds obligated by this transaction.
Funding Office Name	Name of the level <i>n</i> organization that provided the preponderance of the funds obligated by this transaction.
Funding Sub Tier Agency Code	Identifier of the level 2 organization that provided the preponderance of the funds obligated by this transaction.
Funding Sub Tier Agency Name	Name of the level 2 organization that provided the preponderance of the funds obligated by this transaction.

Source: Office of Management and Budget and the Department of the Treasury | GAO-16-261

Appendix IV: Comments from the Office of Management and Budget



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

THE CONTROLLER

January 13, 2016

Ms. Michelle Sager
Director, Strategic Issues
United States Government Accountability Office
441 G Street, NW
Washington, D.C. 20548

Dear Ms. Sager:

Thank you for the opportunity to review the draft report, "DATA ACT: Data Standards Established, but More Complete and Timely Guidance Is Needed to Ensure Effective Implementation (GAO-16-261)."

Attached is OMB's response to the first recommendation of the draft report; OMB defers to the Department of the Treasury on the second recommendation. If you have any questions, please contact me at (202) 395-3895. Your staff may contact Karen F. Lee, Branch Chief for Management Controls and Assistance Branch, at (202) 395-3993.

Sincerely,

A handwritten signature in black ink, appearing to read "David Mader".

David Mader
U.S. Controller

GAO DRAFT REPORT DATED DECEMBER 18, 2015
GAO-16-261

**“DATA ACT: Data Standards Established, but More Complete and Timely Guidance Is
Needed to Ensure Effective Implementation”**

**THE OFFICE OF MANAGEMENT AND BUDGET COMMENTS
TO THE GAO REPORT**

General Comments:

The Digital Accountability and Transparency Act of 2014 (DATA Act) presents a unique opportunity to improve how the Government works by publically displaying how tax dollars are spent. OMB’s approach, in collaboration with the Department of the Treasury (Treasury), is to implement the DATA Act in an agile and iterative fashion. This entails engaging Federal and non-Federal stakeholders early and often, building upon our technical and policy guidance with lessons learned in real time, and leveraging existing systems and processes whenever possible. Work to implement the DATA Act will result in tools to improve the decision-making and management of taxpayer dollars.

The DATA Act is one part of OMB’s overarching effort to expand and improve Federal spending transparency. After standardizing 15 data elements in May 2015 as required by the DATA Act, OMB saw an opportunity to further increase comparability and data quality by refining current award reporting requirements under the Federal Funding Accountability and Transparency Act of 2006. To accomplish this, OMB and Treasury brought together the Federal financial assistance, procurement, budget, and finance communities to determine which data elements required further standardization and to agree upon definitions for those elements. As a result, a total of 57 data elements were identified for standardization - 11 of which are financial data elements, finalized in May 2015 pursuant to the DATA Act. The remaining 46 data elements were finalized in August 2015, pursuant to the overarching policy goal to continue to improve the consistency of USAspending.gov’s federal spending data.

In addition to responding to the recommendation below, OMB would like to address the recommendation contained in GAO-15-752T as it relates to program activity. This matter is also addressed briefly in the text of the draft report. The GAO testimony recommended that OMB should accelerate efforts to determine how best to merge DATA Act purposes and requirements with the GPRAMA requirement to produce a federal program inventory. In OMB’s testimony before the House Oversight and Government Reform Committee on July 29, 2015, an OMB official testified that OMB is in the midst of refining program activity, which is foundational in any future reporting of federal spending by programmatic areas.

The DATA Act specifically requires the reporting of program activities, which are published in the President’s Budget. In June 2015, OMB promulgated guidance in OMB Circular A-11, Sections 82 and 83, requiring agencies to start submitting object class and program activity information from their accounting systems to OMB. The first set of agency submissions are due by the end of January 2016. Agencies, as of early January, have submitted more than 250,000

lines of accounting data as part of testing a new system OMB developed to collect these data. OMB undertook this effort to help agencies maximize the quality of submissions that will show up on USA Spending in 2017.

Implementation of the DATA Act serves as a foundation for our ongoing efforts to define and align federal programmatic areas of work with federal spending. This effort will provide critical information to federal managers, policy makers, and the oversight communities to ensure that we are maximizing the benefits of taxpayer dollars. To achieve this broader goal of federal spending transparency, OMB will continue to work across Federal agencies, the CxO community, Congress, GAO, and our non-federal stakeholders to refine our definition of federal programs and link to federal spending.

Recommendation One:

To help ensure that agencies report consistent and comparable data on federal spending, we recommend that the Director of OMB, in collaboration with the Secretary of the Treasury, provide agencies with additional guidance to address potential clarity, consistency, or quality issues with the definitions for specific data elements including Award Description and Primary Place of Performance and that they clearly document and communicate these actions to agencies providing this data as well as to end-users.

Response: Generally Concur with comment.

On May 8, 2015, in accordance with the DATA Act's requirements, OMB and Treasury standardized financial data elements. In addition to these specific DATA Act provisions, for the purpose of improving the quality of federal financial and award level reporting on USAspending.gov, OMB issued policy guidance on government-wide adoption of these standards, linkage of financial management and award level data, and ensuring data quality in current and future reporting capabilities. In order to increase the level of consistency on USAspending.gov, OMB and Treasury standardized an additional series of 46 data elements under the DATA Act, including Award Description and Primary Place of Performance, on August 31, 2015.

On December 4, 2015, OMB issued a Controller Alert to the federal community, to clarify agency requirements to comply with the finalized data standards from May and August 2015, respectively, and to link award and account level data. These clarifications were made in response to feedback from the federal community to ensure successful implementation of OMB Memorandum M-15-12 (Increasing Transparency of Federal Spending by Making Federal Spending Data Accessible, Searchable, and Reliable).

As part of ongoing work to improve federal spending transparency, and in response to both federal and non-federal feedback, OMB will continue to standardize additional data elements where appropriate through the data standards governance process and, to the extent applicable, regulatory processes. Further, OMB will continue its collaboration and partnership across federal and non-federal stakeholders to identify and address needs for additional policy guidance or clarifications to existing policies.

Recommendation Two:

To ensure that Federal agencies are able to meet their reporting requirements and timelines, we recommend that the Director of OMB, in collaboration with the Secretary of the Treasury, take steps to align the release of finalized technical guidance, including the DATA Act schema and broker, to the implementation timeframes specified in the DATA Act implementation Playbook.

Response:

OMB defers matters of technical operationalization related to USAspending.gov to Treasury which has program responsibility for this particular aspect of the implementation.

Appendix V: Comments from the Department of Treasury



DEPARTMENT OF THE TREASURY
WASHINGTON, D.C.

January 15, 2016

ASSISTANT SECRETARY

Ms. Michelle Sager
Director, Strategic Issues
Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Sager:

We appreciate the opportunity to review the Government Accountability Office's (GAO) draft report GAO-16-261 (the Draft Report) regarding the implementation of the Digital Accountability and Transparency Act of 2014 (DATA Act).

Treasury and the Office of Management and Budget (OMB) have been leading the implementation of the DATA Act to provide more accessible, searchable, and reliable spending data for the purpose of promoting transparency, facilitating better decision-making, and improving operational efficiency. The DATA Act presents a unique opportunity to unlock the spending data that is located across the government and access it in new ways that will create public value.

Treasury established a Program Management Office (PMO) within Treasury's Bureau of the Fiscal Service to support government-wide DATA Act implementation. After the 57 data standards required by the DATA Act were finalized in August, Treasury developed and iteratively released operational guidance to the agencies on how the data standards should be applied. The PMO develops resources for agencies, conducts workshops and in-person agency meetings, holds monthly meetings with agencies' Senior Accountable Officials, holds weekly "office hours" with agencies, and has held "sandbox" sessions for agencies to bring their data to Treasury to test it against the prototype broker. Input from non-federal stakeholders has also been a high priority for DATA Act implementation. As noted in the Draft Report, we established a process to collect public input on the data standards and the data exchange format. We launched the OpenBeta.USAspending.gov website on November 10, 2015, through which we receive public input on the new visualization features and functionality of the future USAspending.gov site scheduled to launch in May 2017. This process will afford us the opportunity to make appropriate adjustments prior to the May 2017 launch date.

The Draft Report contains two recommendations.

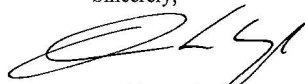
The first recommends that "the Director of OMB, in collaboration with the Secretary of the Treasury, provide agencies with additional guidance to address potential clarity, consistency, or quality issues with the definitions for specific data elements including Award Description and Primary Place of Performance and that they clearly document and communicate these actions to agencies providing this data as well as to end-users." OMB leads the data definition effort and will separately respond to this recommendation.

The second recommends that “the Director of OMB, in collaboration with the Secretary of the Treasury, take steps to align the release of finalized technical guidance, including the DATA Act schema and broker, to the implementation timelines specified in the DATA Act Implementation Playbook.”

Treasury recognizes the importance of providing agencies with timely technical guidance and reporting submission specifications. Since July 2015, Treasury has been working collaboratively with agencies to provide more detailed data element guidance on an iterative basis. Treasury has iteratively made updates to the data element guidance to incorporate agency feedback and policy decisions. To date, Treasury has released five versions of data element guidance to agencies. We also released the corresponding DATA Act schema (v0.7), which includes the data element guidance, on December 31, 2015. Version 0.7 provides a comprehensive normative model, or DATA Act Information Model Schema (DAIMS), to represent all spending and related information anticipated, required, or available to support the additional federal spending transparency information required by the DATA Act. This version also incorporates some of the previous technical recommendations provided to us by GAO. We will continue “to take steps to align the release of finalized technical guidance,” including the DAIMS, agency reporting submission specifications, and broker, “to the implementation timeframes specified in the DATA Act Implementation Playbook.” Note, however, that due to the iterative nature of the implementation approach, the suggested timelines in the Playbook are subject to change.

Treasury values your feedback on these important issues as we continue our efforts to implement the DATA Act, and we remain committed to working with federal agencies to meet the DATA Act’s requirements and objectives. Thank you again for the opportunity to review and comment on the Draft Report.

Sincerely,



David A. Lebryk
Fiscal Assistant Secretary

Appendix VI: Staff Acknowledgments

GAO Contact

Michelle Sager, (202) 512-6806 or sagerm@gao.gov

Staff Acknowledgments

In addition to the contact named above, J. Christopher Mihm (Managing Director), Peter Del Toro (Assistant Director), Kathleen Drennan (analyst-in-charge), Shirley Hwang, Jason Lyuke, Kiran Sreepada and David Watsula made major contributions to this report. Other key contributors include Shari Brewster; Mark Canter; Jenny Chanley; Robert Gebhart; Charles Jones; Lauren Kirkpatrick; Michael LaForge; Donna Miller; Laura Pacheco; Carl Ramirez; Paula Rascona; Andrew J. Stephens; James Sweetman, Jr.; and Carroll Warfield, Jr. Additional members of GAO's DATA Act Working Group also contributed to the development of this report.

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