

GAO Highlights

Highlights of [GAO-17-739](#), a report to congressional committees

Why GAO Did This Study

Each year the federal government spends trillions of dollars through dozens of agencies and thousands of federal programs. Given its sheer size and scope, providing a clear and complete picture of what the federal government does and how much it costs has been a challenge in the absence of a comprehensive resource describing these programs. The GPRAMA Modernization Act of 2010 (GPRAMA) requires the Office of Management and Budget (OMB) to present a coherent picture of all federal programs by making information about each program available on a website to enhance the transparency of federal government programs.

Congress included a provision in GPRAMA for GAO to review the implementation of the act. GAO has chosen to conduct this study now because OMB has not yet developed an inventory that meets GPRAMA requirements. For this report, GAO addresses how one potential approach for organizing and structuring information—the principles and practices of information architecture—can be applied to develop a useful federal program inventory. To present illustrative examples of what programs and program information could be included in an inventory, GAO examined budget, performance, and other resources that could be used to develop an inventory. These examples were also used to illustrate the potential content and structure of an inventory and to identify any challenges.

GAO is not making recommendations in this report.

View [GAO-17-739](#). For more information, contact Elizabeth Curda at (202) 512-7215 or curdaE@gao.gov.

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FEDERAL PROGRAMS

Information Architecture Offers a Potential Approach for Development of an Inventory

What GAO Found

A useful federal program inventory would consist of all programs identified, information about each program, and the organizational structure of the programs and information about them. The principles and practices of information architecture—a discipline focused on organizing and structuring information—offer an approach for developing such an inventory to support a variety of uses, including increased transparency for federal programs. GAO identified a series of iterative steps that can be used to develop an inventory and potential benefits of following this approach. GAO also identified potential challenges agencies may face in developing a full program inventory.

Potential Process for Developing a Federal Program Inventory Based on Information Architecture

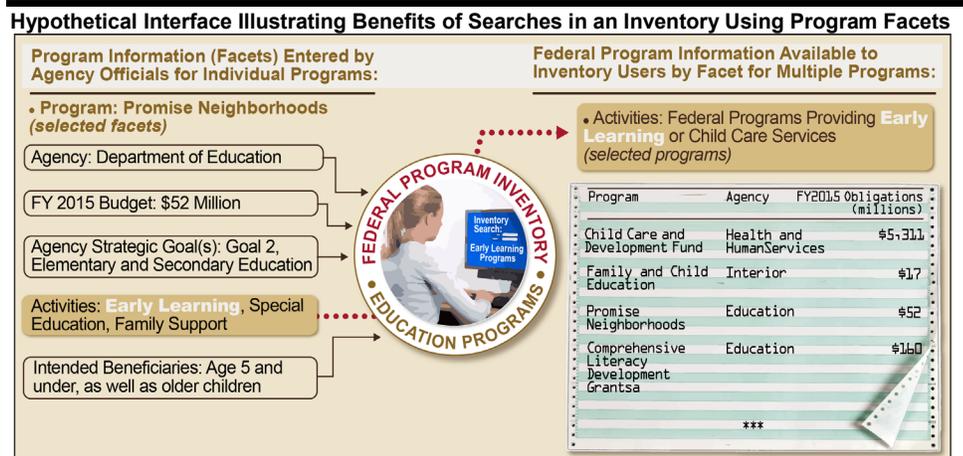
 <p>Establish Purpose and Use</p>	<p>Establishing the purpose and potential uses of an inventory guides development. Consulting stakeholders, including potential users, to understand their needs can inform decisions on the organizational structure and content. Such an inventory could support many uses, such as informing budgetary decisions and tracking program performance.</p>
 <p>Identify Concepts and Terms</p>	<p>Identifying the programs and related program information to include in an inventory involves examining the concepts and terms agencies use to describe their activities. Deciding which concepts and terms will be used for the inventory (including information categories known as program facets) and then developing a controlled vocabulary to define them consistently enhances program comparability.</p>
 <p>Determine Relationships</p>	<p>Determining the relationships between program facets through a robust organizational structure (known as taxonomy) for the entire inventory improves functionality and usefulness. Relatedly, developing decision rules to establish how collections of agency activities will be grouped together for purposes of identifying programs for the inventory enhances consistency and comparability.</p>
 <p>Evaluate Structure and Content</p>	<p>Evaluating the structure and content of the taxonomy against quality standards, including standards for taxonomies and controlled vocabularies, can help promote inventory usefulness. Program information should be evaluated for consistency, completeness, accuracy, validity, and reliability. Decision rules for program identification can also be revisited.</p>
 <p>Design User Interface</p>	<p>Designing an interface, such as a website, can enable users to search, sort, and filter programs according to certain facets based on particular interests and needs. This could include identifying program similarities and differences based on services provided, beneficiaries, or operational activities.</p>
 <p>Validate Usability and Usefulness</p>	<p>Validating the interface for presenting program information can test its organization, structure, and general functionality to further refine the controlled vocabulary and taxonomy. It can also provide opportunities to test reporting capabilities and overall user satisfaction.</p>
 <p>Govern Structure and Content</p>	<p>Governing the inventory involves developing and implementing policies for managing content by establishing how and when programs are added, updated, archived, or deleted. Policies also define the conditions under which the inventory structure—including the controlled vocabulary and decision rules—is adjusted.</p>

Source: GAO analysis of literature on information architecture. | [GAO-17-739](#)

We provided a draft of this report for review and comment to the Director of the Office of Management and Budget (OMB), the Departments of Education and Homeland Security, the U.S. Agency for International Development (USAID), and the General Services Administration. USAID provided technical corrections, which GAO incorporated as appropriate. OMB agreed to consider this information architecture approach as it develops plans for the next iteration of the federal program inventory.

To identify potential benefits and challenges to applying these steps, GAO developed a hypothetical inventory, focusing on three case study agencies—the Departments of Education (Education) and Homeland Security and the U.S. Agency for International Development. Potential benefits of using such an approach to develop a federal program inventory include the following:

- Stakeholders have the opportunity to provide input into decisions affecting the structure and content of the inventory. For example, congressional staff told GAO that an inventory with 5 years of budgetary trend data on programs would be more useful than 3 years of data.
- A range of information through program facets is available for cross-program comparisons, such as budget, performance, beneficiaries, and activities.
- An inventory creates the potential to aggregate, disaggregate, sort, and filter information across multiple program facets. For example, the figure below illustrates how program facets could be used to identify programs that provide similar services—in this case, early learning and child care services—and discover budget and other information for each of the programs identified.
- An iterative approach to development and governance of the federal program inventory can result in improvements and expansions of the inventory over time.



Source: GAO analysis. | GAO-17-739

GAO also identified potential challenges agencies may face when using this approach to develop an inventory, including the following:

- Challenges in determining how agencies should identify and structure their programs in an inventory will need to be addressed, including how to treat spending categories not clearly linked to specific programs, such as administrative support. This may occur because agencies vary in their missions and organizational and budget structures and in how they organize their activities.
- Challenges in collecting information for each program facet may occur for some agencies and programs. This may happen because a greater range of program information may be more readily available for some programs than others. GAO found that this was often dependent on the extent to which certain programs were included by name in budget documents, strategic plans, and agency websites.
- Challenges related to determining what should be identified as a program and the structure and content of the inventory will need to be balanced with usefulness and costs. Agencies may need to weigh the costs that they might face in collecting and reporting program facet information as they establish priorities.