

Developing Actionable Insights Using Data and Evidence to Inform Decision Making and Achieve Results

In recent years, the U.S. federal government has developed a data strategy and institutional infrastructure to leverage its wealth of statistical and administrative data. Congress, via a series of laws, has promoted a greater supply of information and invested in strengthened analytic capabilities in agencies. Executive branch agencies have data leaders and developed administrative routines to better leverage information in existing and new decision-making processes.

Codifying the Importance of Collecting and Using Data

The Foundations for Evidence-Based Policymaking Act (Evidence Act) of 2018¹ represents a significant government-wide reform to the national data infrastructure, building off prior legislation, such as the Government Performance and Results Act of 1993, the Government Performance Results Modernization Act of 2010, and the Digital Accountability and Transparency Act of 2014. The Evidence Act created chief data officers² and chief evaluation officers in federal agencies, established processes for planning data priorities and research needs, required government data to be open by default, and enabled new data sharing capabilities within one of the world's strongest privacy-protective frameworks. The Open, Public, Electronic and Necessary (OPEN) Government Data Act, contained in Title II of the Evidence Act, requires agencies to publish all their information as open data using standardized, non-proprietary formats.³

In July 2020, resources.data.gov was relaunched as an online repository of policies, tools, case studies, and other resources to support data governance, management, exchange, and use throughout the federal government. The site is a joint effort of the White House Office of Management and Budget (OMB), the Office of Government Information Services of the National Archives, and the General Services Administration (GSA).

The legal authority of the Evidence Act changes how the federal government responsibly manages and uses data, and the work to implement the Evidence Act continues across federal agencies. In the past few years, many federal agencies have filled chief data officer and evaluation officer positions. The White House Office of Science and Technology Policy established a chief data scientist position in 2015, who acts as an evangelist for new applications of big data across all areas of government.

Delivering on Annual Action Plans to Achieve the Federal Data Strategy

¹ <https://www.congress.gov/115/plaws/publ435/PLAW-115publ435.pdf>

² https://www.businessofgovernment.org/sites/default/files/Data-Driven%20Government_0.pdf

³ Websites promoting data and evidence sharing: <https://www.data.gov/>, <https://www.pandemicoversight.gov/>, <https://usafacts.org/>, <https://www.datafoundation.org/survey-of-federal-evaluation-officials-2021>; <https://www.datafoundation.org/cdo-insights-report-2021>

In 2020, the first government-wide Federal Data Strategy (FDS) was issued that encompasses a 10-year vision for how the Federal government will accelerate the use of data to deliver on mission, serve the public, and steward resources while protecting security, privacy, and confidentiality. The FDS has an accompanying annual Action Plan that identifies annual concrete steps for agencies to achieve the long-term vision. The 2020 Action Plan identified initial actions for agencies that are essential for establishing processes, building capacity, and aligning existing efforts to better leverage data as a strategic asset. In addition, the 2020 Action Plan included a series of pilot projects already underway at individual agencies and a set of government-wide efforts designed to support all agencies through the development of tools and resources.

Annual Action Plans are developed iteratively with stakeholder feedback and input incorporated along the way. For example, in response to the global pandemic, the 2020 Action Plan was updated in May 2020 to extend certain due dates and called for agencies to prioritize data assets and projects, and that agencies make COVID-19 response data their highest priority. In 2020, collectively, the federal chief data officers (CDOs) formed the first-ever Federal Chief Data Officer (CDO) Council to promote best practices in leveraging data for decision-making and operations. The FDS 2021 Action Plan⁴ builds upon the progress agencies made in 2020 and identifies 40 practices that will require a sustained, iterative, and systematic effort over a ten-year implementation period.

Coordinating Across All Levels of Government

The Evidence Act also has significant implications for state and local governments, federal grantees, researchers, and even partners on the international stage. The law positions the United States as a clear leader in the dialogue about producing useful evidence for decision-making, while also shifting the discourse about the role of data infrastructure in supporting basic program administration.

The global pandemic has demonstrated the criticality of using data and evidence at all levels of government, along with the private sector and the public, to address a national emergency. Now, governments face the challenge of how to best leverage new authorities and routines in making better decisions and gaining useful insights. The U.S. and other national governments can also reach beyond existing routines to engage state, local, nonprofit, and contractor delivery partners in delivering public services. In parallel, all levels of government must encourage the use of data and evidence by both the public and private sectors to inform decisions—whether for weather, traffic, or safety.

Innovative analytics strategies have reduced the cost of collecting and reporting such data and achieving evidence-based insights. Emerging technologies also open new vistas, such as using artificial intelligence (AI) to assist in making complex decisions in diverse areas including benefits determination, public safety, financial management, acquisition, and intelligence.⁵ Agencies like the US Department of Agriculture are launching new enterprise data capabilities.

⁴ <https://strategy.data.gov/assets/docs/2021-Federal-Data-Strategy-Action-Plan.pdf>

⁵ businessofgovernment.org/sites/default/files/Artificial%20Intelligence%20in%20the%20Public%20Sector_0.pdf

Coordination across new data leaders is producing new innovations like the use of natural language processing to accelerate the review of comments on federal rules, breaking down the barriers and silos of data within agencies, and promoting more public access.⁶

In addition, governments must have the capacity to ensure that data used to derive insights, inform decisions, and improve delivery is of the appropriate quality. Managing and improving data quality requires continuous assessment to determine that data provenance reflects an objective and unbiased source, and that the data is complete and accurate. Research can help government emphasize the importance of deriving value from data, showing how data will assist in solving major issues facing society, driving economic growth, and measuring programs to determine their impact. The use of technologies, such as intelligent automation and machine learning, can assist agencies in cleansing and validating data, and improving the collection of data in more easily accessible ways. Leveraging technology to improve data quality reduces the amount of time that staff must spend on data entry and crosschecking information to increase time for analyzing data to derive insights.⁷

Using Evidence-Based Insights to Inform Decisions

The more robust supply of useful data and performance information serve as the foundation for evidence-based insights and decisions. Examples of this trend follow:

- The greater range of availability of open data has contributed to a growing supply of useful information. This has occurred via administrative and legal channels, including the adoption of the OPEN Government Data Act, presidential commitments to open data, and an administrative commitment to making routine administrative data more widely available. For example, the federal one-stop website, data.gov, makes nearly 200,000 data sets available to other agencies, the public, and entrepreneurs.
- Technology innovations in recent years have made it possible to collect, organize, share, and interpret data on a much grander scale than ever before, with greater immediacy. For example, the public can track the more than \$5 trillion in spending of the six economic stimulus legislations that were passed in response to the economic fallout of the COVID-19 pandemic in the United States on an interactive website of the Pandemic Response Accountability Committee (PRAC) here: <https://www.pandemicoversight.gov/>. The site includes numerous interactive tools and dashboards with the ability to search for pandemic-relief spending down to a zip code.
- More government data will be available on the horizon with the growth of micro-data via the “internet of things” (IoT). IoT is already making the delivery of some public services smarter and more efficient, including real-time information on public parking, water management, public facility management, safety alerts for the elderly, traffic control, and air quality monitoring.⁸

⁶[businessofgovernment.org/sites/default/files/Using%20Technology%20and%20Analytics%20in%20Environmental%20Decision-Making.pdf](https://www.businessofgovernment.org/sites/default/files/Using%20Technology%20and%20Analytics%20in%20Environmental%20Decision-Making.pdf)

⁷ [businessofgovernment.org/sites/default/files/Artificial%20Intelligence%20in%20the%20Public%20Sector_0.pdf](https://www.businessofgovernment.org/sites/default/files/Artificial%20Intelligence%20in%20the%20Public%20Sector_0.pdf)

⁸ www.businessofgovernment.org/sites/default/files/Creating%20Public%20Value%20using%20the%20AI-Driven%20Internet%20of%20Things.pdf

- Agencies can access “big data” from multiple sources, from inside the government as well as external platforms including social media. This rich variety allows the compilation of information from existing sources, including administrative data sets, instead of developing unique and costly data sets as typically done by evaluators in the past. The recent creation of USAFacts.org, which provides a snapshot of key indicators of national progress based on data from more than 60 public and private sources, serves as a model of this approach. A new portal for researchers to have a one-stop-shop for applying to access restricted data is under development. New pilot projects of privacy-preserving technologies are underway as public-private partnerships. All of these activities will lead to greater capacity to use data and, therefore, better information to solve the government’s most challenging problems.
- Increased use of technology can be used to facilitate customer and stakeholder engagement to inform decisions that public officials make or that they are proposing to do. Dedicated agency apps can provide relevant content to stakeholders regarding proposed actions. Technology can be used to collaborate more directly with stakeholders and gather more relevant data to perform analyses to inform policy making.
- Increased sharing of raw data is also on the upswing, in part because of the greater use of data standards and schema—especially at the state and local levels. Sharing Medicaid data across states, for example, has led to a reduction in fraudulent claims.

Conclusion

To achieve the goal of a government that uses data to extract insights for better decisions, researchers can help public leaders and stakeholders better understand and adopt promising practices. Such studies can drive data and analyses that help support policy or program decisions that measurably improve government operations and results.

Federal agencies should align resources to advance data and evaluation programming. Those agencies that are moving more quickly toward using data and evidence for decision making are doing just that and identifying the technology necessary to work smarter, analyze data, and collect evidence for meaningful evaluation of programs. Many agencies are investing in reskilling their workforce to thrive in this new culture. As more agencies invest in these methods and demonstrate that data and evaluation impact the outcome of decisions, the public will have greater trust in government.

While significant progress has been made over the past few years – in the middle of a global pandemic – the federal government would benefit from more resources and focus on collecting data, promoting best practices, and sharing the results of program evaluations to validate the best use of federal funds.