AI-Powered SNAP Modernization

Assessing Potential Impacts of Artificial Intelligence on Customer Experience

AUGUST 2025

The proliferation of artificial intelligence (AI) use cases is catalyzing major modernization efforts and efficiency gains across sectors, with many emerging examples occurring within government.[1] Our AI-Powered SNAP Modernization initiative explored the potential for AI use in processing Supplemental Nutrition Assistance Program (SNAP) cases, which can be a labor- and time-intensive process for frontline staff who are already operating at a capacity deficit. These use cases present promising opportunities to drive efficiency and create better customer experiences that foster public trust in government.

Human services agencies that operate SNAP programs are seeking to leverage AI tools by exploring lower-risk, internal-facing use cases—trained on closed datasets and utilized under the close supervision of experts—in an effort to maximize positive outcomes and minimize potential negative outcomes.[2] Many of these use cases are embedded in enterprise software already in use, requiring few additional financial or operational resources while allowing the agencies to retain data and asset ownership.

Although our AI-Powered SNAP Modernization project has focused on internal-facing use cases for government agencies, we recognize the importance of engaging their customers to understand the perspectives of individuals navigating human services systems while allowing agencies to assess any potential downstream effects of AI implementation. As with any technology deployment, end-user and customer insight is a vital component to building more responsive, transparent systems.

This publication—the third and final in a series that the American Public Human Services Association (APHSA) has released on the use of AI in SNAP case processing—examines topics of customer experience, potential risk, and the importance of human oversight through the lens of perspectives shared by SNAP customers.

This brief offers:

- **Insights into the perspectives of current and recent SNAP participants** on the use of AI in SNAP and more broadly; and
- **An introduction to AI risk management frameworks** that inform policymaking around the potential use of AI in SNAP case processing.

Other briefs in this series include:

- The first publication in this series, "AI-Powered SNAP Modernization: An Introduction to Current and Potential Uses of AI in SNAP Case Processing," offered definitions and distinctions between AI, automation, and sub-categories of advanced technologies that are, or could be, used for benefits delivery. It also explored potential use cases of AI in SNAP case processing and provided early reflections on these potential applications.[3]
- The second publication in the series, "AI-Powered SNAP Modernization: Analysis of Policy Issues Impacting the Use of Artificial Intelligence in SNAP Case Processing," explores the contemporary policy landscape impacting the use of AI in SNAP case processing, including federal policies, regulations, and guidance.

APHSA
American Public Human Services Association

Customer Perspective: Using AI in SNAP Case Processing

To explore the potential impact of AI on customer experience, the AI-Powered SNAP Modernization project team at APHSA spoke to 13 customers in three compensated virtual focus groups. At the time of the focus groups, participants resided in Arizona, Colorado, Hawaii, Illinois, Kansas, and Wyoming, with some having experience applying for and receiving SNAP in more than one state.

Participants represented a broad spectrum of familiarity and comfort with AI, with some expressing strong enthusiasm, others decidedly against any use of AI, and many falling somewhere in between.

At the beginning of customer engagements, we presented a short introduction to AI to establish a baseline understanding. This included a definition of AI and examples of popular use cases such as virtual assistants, machine translation, speech-to-text technology, and generative AI chatbots. Facilitators did not share their own opinions, how they personally use AI, or how AI is currently being used in human services so as not to introduce bias or lead the conversation. Facilitators did share that SNAP policy does not currently allow the use of AI for decision-making to proactively address that anticipated concern.

Customers shared their opinions on potential customer-facing uses of AI, staff-facing applications like work aids incorporating AI and automation, AI in general, and their experience with SNAP in general. Across three focus groups of current or recent SNAP customers, we identified two categories of insights:

1. **Human Oversight and Expertise.** To safeguard accuracy and quality of AI-supported processes, agencies should ensure skilled human professionals are involved at all stages of AI implementation.

2. **Customer Centricity and Transparency.** AI systems should enhance clarity, accessibility, and visibility of decisions, data use, and service processes.

Human Oversight and Expertise

Customers who participated in focus groups shared a wide variety of perspectives on how AI might impact customer experience. Participants were particularly concerned about AI applications that affect the ability of agency frontline workers to provide personalized, knowledgeable, and empathetic customer service.

Some participants expressed hope that AI tools could lead to improved outcomes due to increased worker capacity. In contrast, many expressed concerns that the adoption of AI technologies might lead to reduced workforce, create further distance between workers and customers by automating processes that currently involve direct interaction, and complicate the application and enrollment process—particularly for customers and workers with limited technology proficiency.

How might AI use cases impact program integrity and accuracy?

Focus groups explored the potential use cases of a customer- or worker-facing generative AI chatbot to assist with answering questions about SNAP cases. Participants generally felt that this technology could be helpful for very straightforward cases, but they lacked confidence in its ability to effectively handle more complex or nuanced cases, emphasizing the importance of human oversight and accountability.

In one focus group, participants shared a perspective that generative AI chatbots could provide more dignified service than interfacing directly with a human representative. Beyond the implementation of effective customer-facing generative AI, this perspective could support the use of AI for training workers in motivational interviewing and other soft skills—a use case currently being explored in the child welfare space.[4] It is important to note that for some participants, their lack of trust in the use of advanced technologies in government was rooted in their lack of trust in government systems as a whole. This underscores the importance of customer centricity and transparency in agency processes as a means of building trust and encouraging uptake of newly-introduced technologies and procedures.

How might SNAP agencies leverage AI with the appropriate levels of human oversight and expertise?

Customers consistently expressed the importance of expert human oversight at all levels of government operations. They expressed concerns and uncertainties about how agencies will manage bias in the use of AI. While several frameworks provide guidance on AI governance and bias management, the National Institute of Standards and Technology (NIST) is recognized as a primary authority in this area. NIST's guidelines are widely referenced across private industry and government for their rigorous approach to managing risk, ensuring accountability, and addressing potential bias in AI systems. NIST's frameworks are particularly well-suited for public sector applications, offering detailed methodologies for implementing effective oversight, establishing transparency, and maintaining human-centered decision-making.

When considering governance and oversight, agencies can refer to the following sections in NIST Special Publication 1270 ("Towards a Standard for Identifying and Managing Bias in Artificial Intelligence"):[5]

- **Section 3.1,** "Who is Counted? Datasets in AI Bias." This section covers considerations for the use of datasets and how agencies can account for historical and systemic biases.
- **Section 3.3,** "Who makes decisions and how do they make them? Human Factors in AI Bias." This section covers some of the potential harms that can be furthered by algorithmic decision systems where there is less human involvement, as well as ways agencies can keep humans central to these systems.
- **Section 3.4,** "How do we manage and provide oversight? Governance and AI Bias." This section provides guidance on AI systems, as well as creating organizational processes and agency culture that promote effective governance. This includes guidance on monitoring, feedback channels, policies and procedures, risk mitigation, and information sharing.

Image 1. AI System Lifecycle

From National Institute of Standards and Technology Artificial Intelligence Risk Management Framework (AI RMF 1.0)

"Those who play an active role in the AI system lifecycle ideally begin risk management efforts in the "Plan and Design" stage of a system's lifecycle and continue to practice risk management and mitigation efforts throughout the system's lifecycle."

NIST's Artificial Intelligence Risk Management Framework (AI RMF 1.0) adapts the Organization for Economic Co-operation and Development (OECD)'s Framework for the Classification of AI systems to create their own AI system lifecycle (Image 1).[6] This adaptation is a cycle of risk management surrounding the key dimensions of AI systems: People and Planet, Data and Input, AI Model, Task and Output, and Application Context. According to the NIST framework, actors—defined as by OECD as "those who play an active role in the AI system lifecycle, including organizations and individuals that deploy or operate AI"—ideally begin risk management efforts in the "Plan and Design" stage of a system's lifecycle, situated squarely within the context of the application. Actors should then continue to practice risk management and mitigation efforts throughout the system's lifecycle.

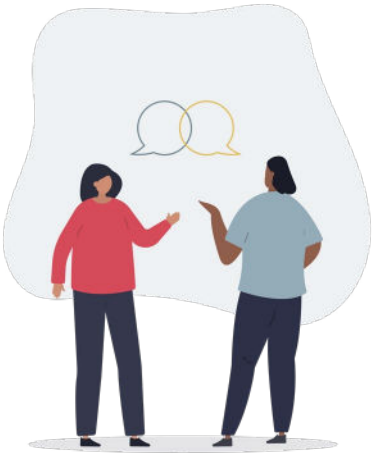
New frameworks, blueprints, guardrails, and other guidelines are emerging to support customer centered, transparent, and trustworthy AI applications in the public sector. The NIST AI Risk Management Framework[7] and related publications[8] provide thorough, broadly applicable, and actionable foundations on which much of the existing AI-related policy and guidance have been built. These act as resources to which both public and private organizations may refer when considering potential for risk across the AI lifecycle. Given that risk and bias are often context-specific, departments such as NIST have also released type-specific resources, such as guides specific to generative AI.[9] The table below contains an incomplete list of risk management frameworks applicable to leveraging AI for innovating human services operations.

Table 1. AI Risk Mitigation and Bias Prevention Frameworks

Title	Audience	Summary
NIST AI Risk Management Framework (RMF)	Data and technology professionals, organization leadership	A framework to manage risk across the AI lifecycle. This document also has various supplemental materials.
NIST RMF Generative AI Profile (2024)	Organization leadership	A supplement to the NIST AI RMF detailing considerations for the implementation of generative AI.
NIST Towards a Standard for Identifying and Managing Bias in Artificial Intelligence	Data and technology professionals, organization leadership	Defines and details forms of bias that might occur in AI systems and provides guidance on bias mitigation.
HHS Trustworthy AI (TAI) Playbook	Health and Human Services (HHS) Operating and Staff Division leadership Program and project managers	Defines TAI and provides guidance for its application across the AI lifecycle, compiles resources on TAI, and provides a framework for HHS policies on AI.
GSA IT Modernization Centers of Excellence AI Guide for Government[10]	Government agency executives Non-technical leadership	A practical guide for government leadership to understand AI and how to build a foundation for its effective implementation.
USDA Fiscal Year 2025–2026 AI Strategy[11]	United States Department of Agriculture (USDA) staff, federal government leadership, customers, general public	Details USDA's AI strategy for FY25-26, including goals, objectives, and key actions.

Customer Centricity and Transparency

One of the most significant concerns focus group participants raised was that AI solutions hold the potential to not only entrench but also to amplify gaps in transparency that are already present in the human processes that AI solutions are designed to replicate, replace, or support. In the current state of SNAP operations, customers often lack visibility into the processes that human services agencies use to determine their family's eligibility for benefits, calculate the dollar amount in benefits they are qualified for, and carry out other critical aspects of program delivery such processing submitted applications or recertifications on time.



Customers described the anxiety and frustration that comes from navigating complex, opaque systems without clear information about their benefits, eligibility, or case status. Some emphasized that knowing where they stand at each step of the process—across application, determination, renewal, and disqualification or otherwise leaving the program—would reduce uncertainty and build trust. They called for clearer communication, more accurate and complete information, and meaningful opportunities for feedback to share their lived experiences moving through these systems as a continuous quality improvement (CQI) mechanism.

How might AI use cases impact customer experience?

While some participants are cautious about the risks of "black box" decision-making with AI technologies, they also expressed hope that AI could be leveraged as a technology to help create more transparent, predictable, and customer centered systems that respect their time, dignity, and need for clarity.

Customers who participated in focus groups said they are looking for more user-friendly customer portals for accessing benefits information—specifically portals that are compatible with mobile phones. They also suggested ways that agencies could bolster transparent communications with program participants, such as by publishing public-facing newsletters detailing program changes. Customers seek clarity on existing program functions and insist that AI applications improve the transparency of agency processes, and avoid exacerbating opacity in decision making, calculations, and automations to the greatest possible extent.

In addition to leveraging AI for more transparent processes and program accessibility, agencies could explore how to leverage AI as a multi-pronged customer connection strategy. For example, AI can be used directly to bolster digital communications over text, email, portal push notifications, and for streamlining physical mailing processes. At the same time, agencies introducing AI into technology functions may produce efficiencies that enable agency staff to dedicate more of their time to customer-centric, in-person service delivery. This can include locations such as offices, community centers, or pop-up events.

How might AI use cases affect transparency throughout the SNAP service delivery process?

Focus group participants expressed a desire to know:

- How AI was being applied;
- The reason for its application (i.e., its value to workers, customers, and the program);
- How their data would be used and protected, particularly if their data would be used to train systems; and
- What mechanisms for feedback would be available to customers.

They emphasized that this information should be easily understood and available through various means—posted clearly on websites, but also available by mail, telephone, or in person—and that additional information should be available as changes were made. SNAP customers want to know who owns the AI systems that hold their data and how it is being used and protected. Regardless of their position on AI adoption, customers emphasized that there should always be alternatives to using the AI system within a customer- or public-facing AI implementation. They also agreed that agencies should provide clear opt-out options.

Centering end-users and customers in process innovation

Customer centricity encompasses customer experience and authentic customer inclusion. Customer experience is a person's perception of and overall satisfaction with interactions with an agency, product, or service.

In Human Services, trust can be earned by demonstrating that processes are effective and efficient, in addition to being fair, protective of privacy interests, and transparent. Engaging customers authentically to drive process improvements is key to achieving excellent and equitable customer experience.

Plain Language for Human Services: Customer centricity is all about making better human services programs by listening to and including the people who use these services and work with them every day in decision making.

Image 2. Dimensions of Customer Centricity

Research Limitations

This research initiative was subject to several limitations that had to be considered when interpreting key takeaways. The participant pool was skewed toward individuals from urban areas in state-administered systems, limiting geographic and programmatic diversity. Additionally, the outreach pool was relatively narrow, which may have constrained the range of perspectives captured. Future research would benefit from broader engagement with customers, ideally through participatory research approaches that position customers as co-leaders in the design and execution of studies.

Although this project reviewed some key risk and bias considerations related to AI in public benefit systems, many important issues fell beyond its scope. These include the implications of AI for communities most affected by gaps in access to technology, particularly in areas with limited infrastructure or constrained fiscal environments. As AI adoption advances, disparities in access to technology and capacity may deepen, reinforcing inequities across jurisdictions. Moreover, the political climate within a given state or locality can significantly shape the feasibility of adopting emerging technologies.

Conclusion

Agencies exploring AI should seek the expertise and input of a diverse set of collaborators throughout the AI discovery and implementation lifecycle. This includes clearly articulating why AI is an appropriate solution for a given problem—and recognizing that, in some cases, AI may not be the most effective or equitable tool.

Throughout the course of this project, AI policymaking has progressed rapidly across all levels of government—from federal executive orders, memoranda, and guidance to state- and agency-level internal policies. As SNAP agencies build their understanding of AI and other advanced technologies, ongoing engagement with federal partners and peer agencies will be essential for sharing implementation strategies, promising practices, and lessons learned. Likewise, continued cross-agency coordination at the federal level will be critical to align priorities, ensure consistent messaging, and mitigate potential risks. Sustained cross-sector coordination will be key to ensuring that public sector innovation keeps pace and maintains alignment with emerging policy. Coordination will also ensure that the AI-powered modernizations that SNAP agencies adopt meaningfully improve outcomes for the people these systems are meant to serve.

Report Authors

Shug Pierce
Process Innovation Associate, Policy & Technology

Blake Turpin
Process Innovation Associate

Jess Maneely
Assistant Director, Process Innovation

To learn more about this research project or for more information about this piece, contact Jess Maneely, Assistant Director, Process Innovation, jmaneely@aphsa.org.

For more information about APHSA' efforts around AI in human services, please visit our AI page: https://aphsa.org/artificial-intelligence/.

Contribution Acknowledgements

The APHSA team extends its sincere gratitude to the thirteen participants of the customer focus groups whose expertise and perspectives were instrumental in enhancing the depth and quality of this publication and project.

This report is funded in part by the Gates Foundation. The findings and conclusions contained within are those of the authors and do not necessarily reflect positions or policies of the Gates Foundation.

Endnotes

[1] For examples of AI use by state governments, see the National Conference of State Legislatures' Brief on Artificial Intelligence in Government https://www.ncsl.org/technology-and-communication/artificial-intelligence-in-government-the-federal-and-state-landscape.

[2] More information on risks associated with AI use in SNAP case processing can be found in the second publication of this series at https://bit.ly/AI_SNAP_Part2.

[3] The first publication in the series can be found at https://bit.ly/AI_SNAP_Part1.

[4] For more information and examples of how AI technology is being used for training, see the National Staff Development and Training Association presentation AI-Enhanced Curriculum: Using Generative Technologies to Assist with Training Development and Evaluation and University of Utah's Virtual Motivational Interviewing app.

[5] NIST Special Publication 1270 can be found at https://www.nist.gov/publications/towards-standard-identifying-and-managing-bias-artificial-intelligence.

[6] The OECD Framework can be found at https://www.oecd.org/en/publications/oecd-framework-for-the-classification-of-ai-systems_cb6d9eca-en.html.

[7] The NIST AI Risk Management Framework can be found at https://nvlpubs.nist.gov/nistpubs/ai/NIST.AI.100-1.pdf.

[8] Related publications can be found on the NIST Trustworthy & Responsible Artificial Intelligence Resource Center (AIRC) webpage at https://airc.nist.gov/home.

[9] An executive summary of the playbook can be found at https://www.hhs.gov/sites/default/files/hhs-trustworthy-ai-playbook-executive-summary.pdf. The full document can be found at https://digitalgovernmenthub.org/wp-content/uploads/2023/08/hhs-trustworthy-ai-playbook.pdf.

[10] The GSA guide can be found at https://coe.gsa.gov/coe/ai-guide-for-government/introduction/index.html.

[11] The USDA AI Strategy can be found at https://www.usda.gov/sites/default/files/documents/fy-2025-2026-usda-ai-strategy.pdf.