

## **FY2025 SNAP Process and Technology Improvement Grant (PTIG) Application**

**Applicant:** Maryland Department of Human Services (DHS)

**Submitting Office:** Office of Benefits Access (OBA), Family Investment Administration (FIA), Maryland Department of Human Services

**Submission Date:** August 4, 2025

## **USDA FNS, FY2025 Process and Technology Improvement Grant Application**

### **Maryland Department of Human Services SNAP Payment Error Rate (PER) Reduction and Transformative Initiative**

The Maryland Department of Human Services (DHS) is pleased to submit this application for the FY2025 SNAP Process and Technology Improvement Grant (PTIG). This proposal outlines a critical initiative to significantly reduce Maryland's Supplemental Nutrition Assistance Program (SNAP) Payment Error Rate (PER), which currently stands at 13.64 percent. By leveraging advanced and generative Artificial Intelligence (AI) and automation, we aim to develop and implement innovative tools, including an enhanced predictive model, and a PER dashboard. This dashboard is an early warning system for PER which centers people, not just data. It encourages intentionality, not reactivity. And, it empowers teams with insight before errors occur. Our project directly addresses existing challenges like complex eligibility rules and manual verification, exacerbated by new federal mandates.

This dashboard will function as an early warning system, prioritizing a human-centered approach over mere data aggregation. It will foster intentional decision-making rather than reactive responses, empowering teams with actionable insights to prevent errors before they occur. Our project directly addresses existing challenges such as complex eligibility rules and manual verification processes, which have been further exacerbated by new federal mandates.

We are confident that this strategic investment will enhance program integrity, empower our dedicated staff, and establish a national model for efficient and equitable benefit access.

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## Executive Summary

The Maryland Department of Human Services (DHS) is seeking a Process & Technology Improvement Grant of **\$1,731,300** to develop and implement a strategy and technical initiative to significantly reduce its Supplemental Nutrition Assistance Program (SNAP) Payment Error Rate (PER), currently at 13.64% against a 6% federal threshold. This project will leverage advanced Artificial Intelligence (AI) and automation to develop and implement an AI-powered real-time PER dashboard, an integrated supervisory case review tool, and an enhanced predictive model. Our approach directly addresses critical challenges stemming from complex eligibility rules, manual verification, and data discrepancies, exacerbated by new federal mandates under **H.R. 1**. This immediate focus aims to achieve quantifiable improvements in program integrity and administrative efficiency, projecting a PER reduction below the 6% federal threshold within the **18-month project period**. This proposal will be eligible for bonus points because we are utilizing predictive modeling and data-driven modalities, rooted in human-centered design principles for caseworker usability and informed by direct insights from our frontline staff. This initiative represents a fiscally prudent, solutions-oriented investment that will enhance performance, empower our workforce, and establish a national model for modernized benefits access. The project will likely qualify as a major change due to the integration of advanced automation technologies into core eligibility determination processes, and DHS is prepared to meet all associated oversight and reporting requirements.

## I. Project Narrative

### A. Project Design (35 points)

**Problem Analysis:** In July 2025, the U.S. Department of Agriculture (USDA) informed the Maryland Department of Human Services that the state's Supplemental Nutrition Assistance Program (SNAP) Payment Error Rate (PER) for Federal Fiscal Year (FFY) 2024 is 13.64 percent. This places Maryland in second-year liability status, following

high error rates in both FFY 2023 and FFY 2024, and results in an assessed penalty of \$11,370,128 for FFY 2024. The notification also triggers a third consecutive year of penalty status, bringing Maryland's potential total liability to \$27,957,820.

Although Maryland has made meaningful progress—reducing the PER by nearly 22 percent since FFY 2022, when the rate stood at 35.56 percent—additional efforts are needed to bring the rate below pre-pandemic levels of 6 percent or less. With **H.R. 1** introducing new SNAP funding mechanisms that tie a state's PER directly to the amount it must contribute toward SNAP benefits, it is especially urgent that Maryland develop and implement robust PER mitigation strategies.

This grant application specifically targets Maryland's top four identified payment error categories:

- Wages and Salaries (earned and unearned income)
- Shelter Deduction
- Household Composition
- Time-limited Participation for Able-Bodied Adults Without Dependents (ABAWD)

During LDSS interviews, one supervisor lamented, "We get the QC data so late, it's like trying to coach a game after it's already over." This direct insight underscores the critical need for real-time intervention capabilities. Approximately 25% of periodic reports are "oververified," resulting in a substantial waste of valuable staff time. Additionally, 90% of supervisors report receiving Quality Control (QC) data too late for proactive coaching or intervention, severely limiting their ability to prevent errors before cases are finalized. This initiative directly addresses these systemic inefficiencies and their fiscal consequences.

**Implementation Plan:** This project will adopt a phased approach, with an immediate and focused Phase 1 leveraging existing assets and proven methodologies. The advanced automation technologies included are acknowledged as major changes in FNS' "Use of Advanced Automation in SNAP" memo and do not require waivers of SNAP regulations.

### **Strategic Anchors**

- Predictive Analytics with QC Data: Harnessing historical QC data to identify patterns and forecast cases likely to contain payment errors for wages, shelter, household composition, and ABAWD time-limits.
- Real-Time Flagging Mechanisms for Caseworkers: Cases meeting high-risk thresholds are flagged prior to case processing, prompting staff to pause and conduct deeper reviews.

- Supervisor Pre-Case Coaching: Flagged cases are routed for pre-case coaching and reviews for error-prone case types.
- Integrated Training Impact Tracing: Dashboard overlays of varying types of data show the shift in PER before and after targeted training, linking practice improvement directly to field outcomes.
- Root Cause Drilldowns: Staff can interact with anonymized error examples to learn from missteps and reinforce policy nuances.

## Dashboard Modality

To understand the dashboard's power, consider how it would transform recently published payment error data into an actionable management tool for an LDSS Supervisor:

- **The Scenario:** A supervisor logs into the dashboard and her Landing Page immediately shows that "Shelter & Utility Deductions" is a top error driver.
  - **A "Trend Alert" widget is flashing red:** "ALERT: Shelter & Utility errors spiked by 500% in Q4." She clicks the alert.
  - **The Drill-Down:** The Diagnostic Drill-Down module opens, showing a clear line graph of the quarterly trend. Below it, a chart reveals the root cause of the Q4 spike: "Sub-type Analysis: 60% of Q4 errors were due to incorrect application of the seasonal cooling SUA."
  - **The Action:** The Proactive Caseload module on the same page automatically displays a list of current, active cases flagged with a similar risk profile. Simultaneously, the Solutions Hub displays links to the specific training tools such as a job aid for calculating the summer cooling SUA. The supervisor can now intervene on current cases and assign targeted training, all in one place.
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- **Development of Real-Time Quality Assurance PER Dashboard & Integrated Supervisory Case Review (Core Focus):**
    - **Activity:** Prioritize the development and deployment of the Interactive Quality Assurance PER Mitigation & Dashboard.
    - **Deliverables:** Functional, user-tested real-time PER dashboard and training materials.
  - **Enhancement of Predictive Data Model for PER Prevention:**
    - **Activity:** Refine and deploy the Predictive Caseload Intervention Model to identify households at high risk of administrative errors.
    - **Deliverables:** Enhanced predictive model for PER; integration with dashboard for risk flagging.
  - **Framework: Establish Rapid Improvement Event (RIE):**

- **Activity:** Convene cross-functional teams to identify high-impact error trends and rapidly prototype training and system-level adjustments.
- **Deliverables:** RIE report with root cause analysis, prioritized solutions, and alignment with other policies.

**Sustainability:** Maryland DHS is committed to sustaining this project beyond the grant period. Upon successful implementation, the AI-powered tools and infrastructure will be integrated into the core operations of the Office of Benefits Access (OBA). Ongoing maintenance and support will be funded through the regular operational budget for the Maryland Benefits system.

## **B. Impact and Evaluation (30 points)**

Our comprehensive and data-driven evaluation plan will measure the project's impact and overall success.

- **Quantifiable Impact:**
  - **PER Reduction:** Direct measurement of the SNAP PER to assess progress towards the 6% federal threshold within the 18-month project period.
  - **Error Rate Reduction:** Tracking of Maryland's specific error categories through monthly QC and Program Review Analysis meetings.
  - **Case Processing Time:** Track reductions in manual processing times and "oververification" of periodic reports.
- **Evaluation Measures:**
  - **Weekly PER Plan Meetings:** Assess short-term error reduction tied to RIE interventions.
  - **Formal QC and QA Program Review Analysis:** Review QC findings, identify root causes, and track progress.
  - **Training Effectiveness:** Establish and evaluate KPIs for training effectiveness.
  - **Caseworker Feedback & HCD:** Solicit regular feedback from caseworkers and supervisors on policy clarity and usability of new system tools.
  - **Payment Accuracy Conference:** Host a full-day conference in Spring 2026 for staff to reinforce new initiatives.

## **C. Organizational Experience, Staff Capability, and Management (15 points)**

**Organization Capacity:** The success of this project will be based on the staff and organizational capacity within its partners, including the Maryland Department of Human Services (DHS) and the Maryland Benefits team. DHS is the State SNAP Agency

responsible for oversight. The Maryland Benefits team is the product and technology organization responsible for building and maintaining products for state agencies.

**Oversight and Key Staffing:** The proposal describes a plan for effective and consistent oversight by qualified managers throughout the project. The core team with key staffing members are noted below. Resumes and project job descriptions demonstrating appropriate technical and experiential backgrounds will be provided as an appendix.

**Augustin Ntabaganyimana, Executive Sponsor.** Augustin provides strategic leadership across Maryland's Department of Human Services public benefits programs, guiding policy implementation, service integration, and cross-jurisdictional collaboration. With deep expertise in program operations and community engagement, he champions initiatives that elevate access, integrity, and innovation. As a sponsor of Maryland's PTIG proposal, Augustin brings a values-driven perspective rooted in improved customer service, performance and mission alignment.

The project will be led by **Graham O'Neill, PTIG Grant Director**, who will provide grant management and oversight, with support from **Lauren Molineaux, PTIG Program Lead**, and **Vivek Chandroth, PTIG Product & Technology Director**. Lauren will have three individuals reporting to her: **Anthea Seymour, PTIG Operations Lead**, **Towanaka Young, PTIG QC Lead**, and **Labelle Hillgrove, PTIG Policy Lead**. The Maryland Benefits team will report to Vivek Chandroth.

#### **Graham O'Neill, PTIG Grant Director**

- Provides strategic direction for the PTIG, aligning the project with departmental goals to modernize benefits delivery and reduce administrative burden in Maryland.
- Brings over 15 years of expertise in benefits administration, data-driven process improvement, and implementing technology solutions in human services.
- Possesses deep experience in building and leading strategic partnerships among policy, technical teams, and government stakeholders to develop digital solutions for societal problems (e.g., Direct File, GetYourRefund, COMPASS, Philadelphia Tax Center).
- Directed the end-to-end management of multi-million dollar programmatic grants, including complex initiatives like the \$10.3M "You Earned" EITC campaign.

#### **Vivek Chandroth, PTIG Product & Technology Director**

- Part of the Maryland Benefits leadership. Drives the product development for the PTIG grant. Works closely with Graham O'Neill and Lauren Molineaux.
- Leads the project's product and technical strategy, overseeing the design to ensure scalability, resilience, and state control.

- Oversees all AI/ML engineering and data analysis for the project's solutions, including the development of the real-time PER dashboard, the predictive caseload intervention model, and the integrated supervisory case review tool.
- Manages the Maryland Benefits technical teams responsible for the project and provides all essential technical input, development timelines, and cost estimations for the grant budget.
- Ensures the system adheres to the highest standards of technical governance, including robust MLOps pipelines, Explainable AI (XAI) protocols for transparency, and safeguarding PII.

#### **Lauren Molineaux, PTIG Program Manager**

- Reports to Graham O'Neill and works closely with Vivek Chandroth.
- Leads statewide strategy for policy development, program design, and implementations in addition to expanding public and private partnerships to improve benefits access.
- Will work to ensure program policies and training are consistent with the goals and outcomes targeting the PER improvement initiative.
- Previous experience includes administering Maryland's TANF and Energy Assistance Programs and working for the Federal Administration for Children and Families to develop payment accuracy best practices.

#### **Anthea Seymour, PTIG Operations Lead**

- Reports to Lauren Molineaux, works closely with Towanaka Young and Labelle Hillgrove.
- Leads statewide strategy for public benefits operations, including compliance, innovation, grant writing, and payment error reduction.
- Nearly 30 years of public service focused on system implementation, business process improvement, strategic planning, and project management.
- Co-leader of Maryland's PER improvement initiative focusing on strategic improvement in cross-leadership, human centered design, and continuous process improvement.

#### **Towanaka Young, PTIG QC Lead**

- Reports to Lauren Molineaux and works closely with Anthea Seymour and Labelle Hillgrove.
- Initiates, plans, and designs evaluation projects to provide detailed and statistically valid management information to improve program performance.
- Prepares monthly matrices of error findings for local departments and recommends corrective action.



- Responsible for DHS's data collection, analysis, and reporting of benefit accuracy and timeliness for SNAP.

#### **Labelle Hillgrove, PTIG Policy Lead**

- Reports to Lauren Molineaux, works closely with Towanaka Young and Anthea Seymour.
- Leads statewide strategy for SNAP policy development, program design, and implementations.
- Previous experience includes over 20 years of progressive experience in human services delivery, specializing in the policy, procedures, and operations of public assistance benefit programs.

**Communication Plan:** A detailed communication plan will ensure all internal stakeholders are informed and engaged.

Channel	Audience	Frequency	Purpose
Weekly Project Team Meetings	Project Leadership	Weekly	Discuss progress, address roadblocks, assign tasks.
Bi-Weekly Briefings	FIA Leadership	Bi-weekly	Provide status updates, discuss impacts, solicit feedback.
Monthly Project Newsletter	All Internal Stakeholders	Monthly	Disseminate high-level updates, celebrate successes.
Dedicated Intranet Page	All Internal Stakeholders	Ongoing	Central repository for project documentation.



Email Announcements	Targeted Stakeholders	As needed	Urgent updates, policy clarifications, calls to action.
Training Sessions & Workshops	LDSS Caseworkers & Supervisors	As launched	Hands-on training for new tools.
User Feedback Surveys & Focus Groups	LDSS Caseworkers & Supervisors	Quarterly	Formal collection of feedback on usability and effectiveness.
Monthly QC and Program Review	Multi-disciplinary team	Monthly	Review QC findings, identify root causes, track progress.
Executive Briefings	DHS Executive Leadership	Quarterly	Provide strategic updates on alignment with goals.
Maryland Benefits Team Integration Meetings	Project Leadership, Maryland Benefits Team	Bi-weekly	Technical deep-dives to ensure seamless integration.

**PII Safeguarding:** All data and client personally identifiable information (PII) will be protected in accordance with Section 11(e)(8) of the Food and Nutrition Act of 2008, Federal regulations at 7 CFR 272.1(c), and the Privacy Act of 1974.

#### **D. Budget Appropriateness and Economic Efficiency (20 points)**

The proposed budget is designed for fiscal prudence and efficient resource allocation. A detailed, line-item budget will be submitted as a separate appendix.

- **Expense Table:**

Expense	Expense Type	Hours/Units	Hourly Rate/Unit Rate	Individuals	Total
<b>FIA Estimate</b>					
Trainer	Staff	1250	\$126.00	1	\$157,500.00
Data Analyst	Staff	1500	\$126.00	1	\$189,000.00
QA Analyst	Staff	2000	\$126.00	1	\$252,000.00
SNAP Accuracy Capability Building	Staff or Event	1	\$150,000.00	1	\$150,000.00
<b>FIA Total</b>		<b>4750</b>		<b>3</b>	<b>\$748,500.00</b>
<b>Maryland Benefits Estimate:</b>					
Application Developer	Staff	4620	\$126.00	21	\$582,120.00
Infrastructure Developer	Staff	500	\$126.00	6	\$63,000.00

Rules Developer	Staff	400	\$126.00	2	\$50,400.00
Application Architect	Staff	120	\$126.00	1	\$15,120.00
Business Analyst	Staff	400	\$126.00	5	\$50,400.00
Data Scientist	Staff	380	\$126.00	2	\$47,880.00
Data Architect	Staff	120	\$126.00	1	\$15,120.00
Systems Subject Matter Expert	Staff	120	\$126.00	1	\$15,120.00
Quality Analyst	Staff	900	\$126.00	10	\$113,400.00
Training Specialist	Staff	120	\$126.00	2	\$15,120.00
Program Manager	Staff	120	\$126.00	2	\$15,120.00

<b>Maryland Benefits Total</b>		<b>7800</b>	<b>\$126.00</b>	<b>53</b>	<b>\$982,800.00</b>
<b>Grand Total</b>		<b>12550</b>		<b>56</b>	<b>\$1,731,300.00</b>

## V. Activities/Indicators Tracker

The following table maps the proposed project activities to the Fiscal Year 2025 Key Objectives, along with specific, measurable indicators of success. This tracker is a critical tool required by the grant to demonstrate how project execution will be monitored against its goals. It serves to connect the "what we will do" (Activities) with the "why we are doing it" (Objectives) and "how we will know it worked" (Indicators).

<b>Activity</b>	<b>Objective #</b>	<b>Indicator(s)</b>
Develop and deploy the Interactive PER Mitigation & Challenge Dashboard.	2	Percentage of LDSS offices utilizing the dashboard monthly.
Integrate AI for Supervisory Case Reviews into the PER Dashboard.	2	Number of potential errors flagged by the AI tool prior to case finalization.
Refine and deploy the Predictive Caseload Intervention Model.	2	Number of high-risk households identified by the predictive model.
Conduct monthly QC and Program Review Analysis meetings.	All	Monthly SNAP PER, disaggregated by error type.

## VIII. Conclusion

This PTIG grant proposal outlines a robust, data-driven, and forward-looking strategy to significantly reduce Maryland's SNAP PER, enhance program integrity, and empower

our frontline workforce through targeted AI solutions. By investing in an AI-powered real-time PER dashboard, an integrated supervisory case review tool, and an enhanced predictive model, Maryland DHS will achieve quantifiable improvements in efficiency and fiscal responsibility. We are confident this initiative will serve as a national model for modernizing benefits access and mitigating the impacts of evolving federal mandates like H.R. 1.

## Appendix G: Note on Budget Finalization

### MEMORANDUM FOR THE RECORD

#### SUBJECT: Note on Budget Development and Finalization

1. **Purpose:** This note is to provide context on the development of the budget for this grant application.
2. **Context:** The preparation of a competitive grant of this scale is an iterative process. During the drafting phase, a minor discrepancy existed between the funding total in the Executive Summary and the detailed budget table. This occurred as due to version control issues that are unavoidable without a standardized model for strategic development.
3. **Resolution:** This discrepancy has been fully resolved in the current version of the application. The Executive Summary and the detailed budget are now aligned at a total request of **\$1,731,300**. This figure represents the project team's comprehensive estimate, developed in close partnership with our technical leads at Maryland Benefits.
4. **Next Step:** As a final, standard step in our internal review process, this budget will be presented to FIA executive leadership for final validation. This is a simple verification step to ensure complete alignment between the operational plan and the final fiscal request before submission.

Complete JAWN Master Tool Inventory: Payment Accuracy & Hostile Import Edition  
This is the exhaustive, unsummarized tool roster. It integrates the NetworkX architectural change, the Payment Accuracy mission requirements, and the Hostile Import security constraints for every single component in the stack.

| Tool | Role in JAWN | Status | Phase | Deployment Location | Critical Security Constraint |

|---|---|---|---|---|---|

| GitHub | The Source. Repository & Quarantine. Houses legacy-reference (Replit code) and main. | Existing | Phase 1 | Outside (Private) | Must never contain secrets or .env files. |

| Gitleaks | The Sentry. Secrets detection. Scans every commit for API keys/passwords. | Augmentation | Phase 1 | Outside (CI) | Mandatory for export approval. |

| Checkov | The Inspector. IaC compliance. Scans Terraform/Dockerfiles for non-FedRAMP configs. | Augmentation | Phase 1 | Outside (CI) | Blocks public buckets or unencrypted storage. |

| Firebase Studio | The Factory. Development IDE. The sterile "Clean Room" for coding. | Adopt | Phase 1 | Outside | Use standard features only (No Beta/Genkit). |

| Gemini Code Assist | The Architect. Coding Assistant. Helps refactor legacy Replit code into Python. | Augmentation | Phase 1 | Outside | Used for logic translation, not data processing. |

| Artifact Registry | The Warehouse. Container storage. Holds the signed, scanned Docker images. | Augmentation | Phase 1 | Shared | Images must be signed and immutable before export. |

| Cloud Run (App) | The Runtime. API / Web Interface. The "front door" for the dashboard. | Adopt | Phase 1 | Shared | Stateless, FIPS-compliant image (e.g., python:3.11-slim). |

| Cloud Run (Z3) | The Accuracy Engine (Judge). Runs the Z3 Solver to calculate exact benefits and flag risks. | Integrate | Phase 2 | Shared | Private microservice. No public ingress. |

| NetworkX | The Living Policy (TBox). In-memory Python graph library defining rule dependencies. | Integrate | Phase 2 | Shared | Zero-Ops. Logic lives in code, not a database server. |

| Cloud Build | The Heavy Lifter. CI/CD Pipeline. Builds the "Hazardous Payload" container. | Augmentation | Phase 2 | Outside | Builds the artifact that crosses the air-gap. |

| Trivy | The Scanner. Container CVE checks. The final gate before "Sneaker-net" export. | Augmentation | Phase 2 | Outside | Fails build on "High" or "Critical" severity findings. |

| Jules (Agent) | The Workforce. Logic Refactorer. Sanitizes Replit code into clean NetworkX/Z3 logic. | Integrate | Phase 2 | Outside | Operates only in the "Outside" quarantine. |

| Gemini 1.5 Pro | The Parser. Extracts case facts from text for the "Predictive Model". | Integrate | Phase 2 | Shared | Outside: Reads Public Policy. Inside: Reads Internal Policy. |

| Vertex AI RAG | The Librarian. Policy Vector Store. Ingests H.R. 1 & PTIG mandates. | Augmentation | Phase 2 | Shared | Keeps the "Living Policy" current with federal changes. |

| OpenTelemetry | The Sensor. Tracing/Logging. Captures "Payment Error" flags in real-time. | Augmentation | Phase 2 | Inside | Transmits to internal DHS log collectors. |

| Managed Prometheus | The Recorder. Metrics. Monitors the health/latency of the "Accuracy Engine". | Augmentation | Phase 2 | Inside | Ensures real-time performance inside the firewall. |

| Swagger UI | The Map. API Documentation. Helps DHS developers integrate JAWN with THINK. | Augmentation | Phase 2 | Inside | Documents the "Quiet Rules Checker" API. |

| MD THINK | The Source of Truth. Case Data. Provides live data for the "Real-Time" check. | External | Phase 3 | Inside | Read-Only API. JAWN never stores this data. |

| BigQuery (Gov) | The Dashboard Backend. Stores error trends and root cause data for the PER Dashboard. | Adopt | Phase 3 | Inside | Replaces "Data Connect" to meet FedRAMP data warehousing needs. |

| Colab | The Analyst. Data Visualization. Visualizes the "500% spike in Shelter errors" trends. | Ready | Phase 3 | Inside | Connects to BigQuery for ad-hoc analysis. |

| NotebookLM | The Supervisory Tool. Explains why a specific case was flagged (Training/Coaching). | Ready | Phase 3 | Inside | Indexes the "Living Policy" to answer caseworker questions. |

Next Step

This is the complete, unsummarized roster. I am ready to generate the Phase 1 Execution Checklist to begin the Quarantine Import of your Replit code. Shall I proceed?