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INFORMATIVE REPORT

EBT Chip Card Implementation - Industry Guidance

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Foreword

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This Informative Report is a product of ASC X9. It was produced by the USDA EBT Chip Card Forum, which was created by the ASC X9 Board of Directors in 2023 to research and assist the X9A11 work group to update the X9.93 standard to include chip on board technology.

The information in this report reflects the views and information available at the time of publication and may be revised as technology, standards, and industry practices evolve.

Comments, suggestions for improvement, and proposed revisions are welcome and should be sent to:

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Overview

The U.S. Department of Agriculture (USDA), Food and Nutrition Administration (FNA) administers the Supplemental Nutrition Assistance Program (SNAP) in cooperation with SNAP State agencies. In recent years, USDA has received increasing reports of bad actors stealing benefits through card skimming, card cloning, and other similar fraudulent means. In response to the Consolidated Appropriations Act, 2023, which included new provisions addressing the growing problem of SNAP benefit theft, FNA began working to develop new requirements regarding SNAP benefit security measures. Among the many initiatives to implement new card security measures, FNA is coordinating efforts with States, the Administration for Children and Families at the Department of Health and Human Services, retailers, and EBT processors to determine how and where EBT benefits are being stolen and used. One key initiative emerging from these efforts is the transition to chip-enabled EBT cards, which offers enhanced protection against counterfeit card-present fraud resulting from card skimming and cloning.

This document was developed by participants in the X9 USDA EBT Card Industry Forum, a stakeholder group convened to develop industry guidance supporting a coordinated, secure, and standards-based transition to chip-enabled EBT technology. The report is organized into the following four sections that provide guidance on topics critical to successful planning and implementation of chip technology for EBT cards:

1. Chip Card Transaction Processing
2. Chip Card POS Upgrades and Updates
3. Chip Card Options and Replacement Strategies
4. Chip Card Rollout

The audience for this report includes stakeholders associated with the USDA's issuance, processing, and redemption of SNAP benefits and other benefits issued on EBT cards. This includes, but is not limited to, State agencies, EBT processors, retailers, point-of-sale (POS) providers, payment networks, industry associations, advocates, and community partners.

Assumptions and Guiding Principles

This report assumes a baseline understanding of SNAP EBT card issuance processes, EBT transaction flows, and other foundational terminology used across the SNAP EBT payment ecosystem.

The guidance and recommendations are grounded in the following principles:

- Ensure the integrity, interoperability, and efficiency of SNAP payments.
- Leverage available technology to reduce fraud risks associated with older magnetic stripe technology and ensure secure SNAP EBT transactions.
- Maintain relevant payment and fallback options.
- Anticipate and mitigate fraud risks, both in-store and online.
- Support households in redeeming SNAP benefits and accessing food.
- Promote a consistent approach that is acceptable to all stakeholders.

Industry Forum Background and Stakeholder Engagement Process

ASC X9 and USDA EBT Card Industry Forum

The Accredited Standards Committee X9 (ASC X9) has the mission to create and maintain US and International standards that improve payments and securities transactions, protect data, and facilitate information exchange. Within ASC X9, the X9A11 Working Group is responsible for maintaining the U.S. EBT standard, ANSI X9.58. Although only X9 members can participate in developing and maintaining X9 standards, X9 supports convening Industry Forums that include non-members to gather broader input to inform its work.

In June 2023, at the request of industry stakeholders, ASC X9 agreed to host the USDA EBT Card Industry Forum to convene a broad spectrum of industry stakeholders, consisting of both X9 and non-X9 members, to provide an environment for discussion of issues related to upgrading of SNAP EBT cards to chip cards. The Industry Forum consists of State agencies, USDA/FNA representatives, EBT processors, third party processors, eCommerce providers, mobile wallet providers, (MAG), retailers, card manufacturers, POS providers, anti-hunger advocates, and other payment industry stakeholders. The intent of the group is to provide an open forum to discuss and reach consensus on the requirements related to upgrading SNAP EBT cards from magnetic stripe to chip, and to provide recommendations to the X9A11 work group.

Discussion Sessions and Stakeholder Input

In November 2023, the USDA EBT Card Industry Forum convened a series of stakeholder discussion sessions to gather input on technical and operational considerations for the implementation of SNAP EBT chip cards. These sessions marked a shift from standards development to active stakeholder engagement focused on real-world implementation challenges and strategies.

A total of three core 1-hour discussion sessions were held between November and December 2023, supported by several targeted follow-up sessions. More than 150 stakeholder representatives participated in each core session.,

The sessions addressed four core focus areas, each explored in greater depth within the corresponding sections of this report:

1. **Transaction Processing**
   – Card-Present Transactions
   – Card-Not-Present Transactions
   – Fallback
   – Payment Options
   – Certification and Testing
2. **Point of Sale (POS) Updates and Upgrades**
   – Equipment and Hardware Upgrades
   – Software Updates
   – Terminal Configuration
   – Certification Tools and Scenarios

3. **Card Updates and Card Replacement**
   – Card Manufacturing
   – Card Options and Personalization
   – State and Local Office Equipment Needs
   – Card Replacement Strategy
   – Chip Card Maintenance
4. **EBT Chip Card Rollout Strategy**
   – Preparing for Rollout
   – Retailer Readiness
   – Rollout Coordination
   – Communication and Training

Each section of this report reflects stakeholder insights from the discussion sessions, offering topic-specific considerations, implementation guidance, and strategies to support a secure and coordinated transition to chip-enabled EBT cards.

The report also includes a glossary of terms and acronyms and a list of additional online resources. In the Appendices.

Section 1: Transaction Processing

1.0 Scope

This section provides implementation insights and planning considerations related to transaction processing for SNAP EBT chip cards. It covers both card-present and card-not-present environments, fallback procedures, payment options, and certification and testing requirements. Topics such as point-of-sale hardware upgrades, card issuance, and rollout planning are addressed separately in subsequent sections.

Insights in this section are grounded in stakeholder feedback collected through three dedicated discussion sessions hosted by the X9 EBT Card Industry Forum. These sessions offered a structured venue for in-depth exploration of key transaction processing topics, with up to 168 stakeholders participating.

The sub-topics explored in these sessions included:

1. Card-Present Transactions
2. Card-Not-Present Transactions
3. Fallback Procedures
4. Payment Options
5. Certification and Testing Requirements

The guidance provided below synthesizes key stakeholder input and translates it into actionable considerations to inform program design, promote system readiness, and support a smooth transition to chip-based SNAP EBT transactions.

1.1 Background: Transaction Processing

SNAP EBT transaction processing was originally built around magnetic stripe card technology. These legacy systems rely on static data stored on the card and transmitted by swiping through a retailer's point-of-sale (POS) terminal. While this approach functioned effectively for many years, the rise in skimming and counterfeit card fraud has prompted a global shift to chip card technology, which offers stronger security through dynamic data processing and real-time cryptographic authentication.

As SNAP EBT transitions to chip-based cards, stakeholders across the ecosystem - retailers, processors, acquirers, and state agencies - must adopt the chip-based transaction model. This model introduces new protocols for how card data is read, verified, and approved for card-present transactions. The enhanced security of EBT chip card transactions is built around online dynamic authentication, in which the card generates transaction-specific data that is validated in real time by the state's EBT host processor.

To support this functionality, chip transaction processing requires greater interaction between the chip, the POS terminal, the acquirer, and the issuer. Each system component must implement logic specific to chip protocols. Although chip specifications allow multiple applications to reside on a single chip, each application must be matched with corresponding logic and configurations across all layers of the ecosystem. For SNAP EBT, the Mastercard M/Chip application has been selected as the foundational chip application. The M/Chip application is already widely deployed across the

commercial payment ecosystem, which simplifies the adoption path by leveraging established chip processing frameworks and minimizing the need for new application logic within terminals, acquirers, and issuer processing environments.

However, specific EBT configuration settings must still be implemented consistently across the transaction processing infrastructure. These include recognition of the SNAP EBT Application Identifier (AID), terminal processing rules such as terminal action codes (TAC) and cardholder verification requirements, and corresponding authorization and validation logic within acquirer and issuer processing systems. Coordinated implementation of these processing requirements across all layers of the ecosystem is essential to ensure secure, predictable, and interoperable SNAP EBT chip transactions.

1.2 Card-Present Transaction Flow Overview

The diagram below illustrates a typical SNAP EBT card-present transaction using chip technology. It is intended to help readers visualize the step-by-step flow of data and responsibilities across the core entities involved in a transaction: the retailer's POS, system, the POS acquirer, the transaction network or third-party processor (TPP), and the State's EBT host processor. This overview helps contextualize the technical updates and stakeholder implementation tasks discussed throughout this section.

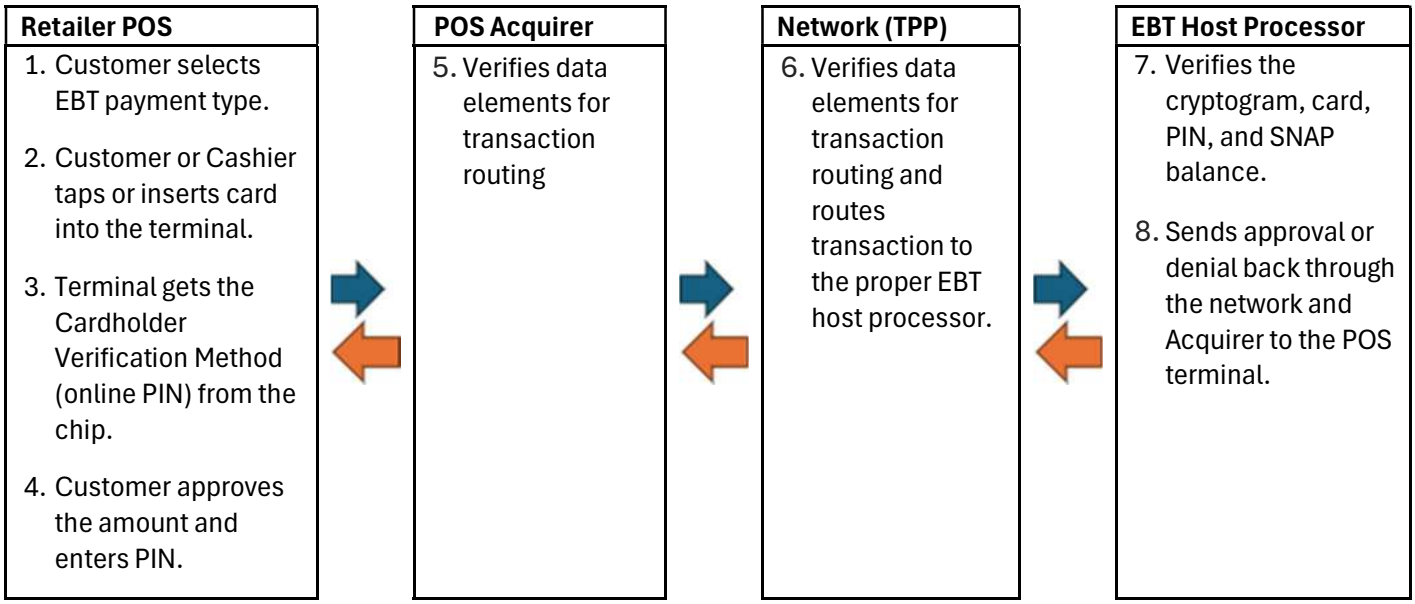

Figure 1: SNAP EBT Transaction Process

While the diagram helps illustrate the key steps and stakeholders involved in a chip-based SNAP EBT transaction, it does not capture the full set of technical changes introduced by the transition to chip technology. Unlike magnetic stripe transactions—which simply read static data from the card and pass it through the network— chip transactions are dynamically configured. The chip itself contains application parameters that, when combined with the capabilities of the point-of-sale terminal, determine how the transaction is processed. These parameters drive critical decisions about card

authentication, cardholder verification, and risk management. The following are the primary chip-related data elements that directly inform how SNAP EBT transactions are to be processed.

1) The Application Identifier (AID) encoded in the chip informs the terminal what application resides on the chip. For a chip card transaction to take place, the card and the terminal need a matching AID. If the terminal cannot find the AID within its configuration table, it will return an Empty Candidate List (ECL) outcome signaling that the terminal does not support the chip application presented on the card. The AID is composed of two parts: the registered application provider identifier (RID) and the proprietary application identifier extension (PIX). SNAP EBT chip cards will have the following proprietary AID encoded on them - A0000000044542, which includes the Mastercard RID and a SNAP EBT proprietary PIX. The unique AID enables POS terminals to support SNAP processing rules (e.g., PIN entry required, fallback rules) via standard terminal action codes (TACs). Although the AID does not determine how a transaction is routed, it does facilitate interaction between the card and the card reader or POS terminal.
2) The Cardholder Verification Method (CVM) informs the terminal what type of verification should be performed – For EBT chip cards this will be set to online PIN which informs the terminal to prompt for a PIN and to send that PIN online for verification.
3) The Application Interchange Profile (AIP) indicates the chip features that the card supports such as offline Dynamic Data Authentication or online processing. For EBT chip processing, it will indicate online processing.
4) The Application Usage Control (AUC) specifies how the card can be used (e.g. domestic only). For EBT, it is set to domestic only.
5) Track 2 Equivalent Data – Provides the primary account number (PAN), expiration date and service code in a format similar to the mag stripe Track 2.

After reading information from the chip, new data parameters from the terminal are also factored into how the transaction is processed. The following is a list of the primary new EMV terminal data elements that influence how the EBT chip transaction is processed.

1) Terminal Capabilities – This indicates what CVMs the terminal supports (Offline PIN, Online PIN, Signature Contactless or Contact).
2) Terminal Type – This indicates if the terminal is an Attended POS, Unattended Fuel Dispenser, ATM, etc.
3) POS Entry Mode -This indicates how the card was read and if it supports fallback logic. Possible entry modes include – Contact chip, Contactless chip, Magnetic stripe fallback and manual.

Once the terminal has accessed data from both the chip and its own configuration, it determines the appropriate processing flow and generates the chip-specific elements for the ISO 8583 authorization message.

1.3 Key ASC X9 EBT Standard Updates for EBT Chip

In addition to the chip and terminal-level data elements described above, the Accredited Standards X9 Committee has updated the national EBT processing standard to support chip card acceptance and enable transaction-level enhancements. The revised X9.58 – 2024 standard builds upon the 2022 version by introducing technical changes that accommodate EMV chip data structures, defines new ISO 8583 message fields, and supports limited card-not-present functionality. These updates are

essential to ensure that EBT transactions can be processed securely and consistently across retail environments and backend systems.

While many stakeholders may not be directly familiar with the X9.58 standard itself, the changes introduced in the 2022 and 2024 versions have a direct impact on how EBT transactions are initiated, routed, and authorized. The following summary highlights the key ISO 8583 transaction message changes that must be supported by terminals, acquirers, networks, and EBT processors as part of the chip migration effort.

Note: References to "bits" in the following refer to specific data locations within the ISO 8583 messaging format used in card-based transaction processing.

1.3.1 ISO 8583 EBT Transaction Message Changes

X9.58 – 2024 Changes from the 2022 version:

The code values that are deleted, added, or changed from the X9.58 - 2022 version of the EBT standard are listed below. Users of the X9.58 - 2024 standard shall not allocate or assign code values indicated as reserved.

Code Values

Point of Service Entry Mode (bit 22) – The terminal generates these values at transaction time.

Card Reading Method (bit 22-1)

a. Added value 80: 'Fallback to Magnetic Stripe' used when a chip read fails and the terminal reverts to reading the magstripe.
b. Changed Value 07: 'NFC' - Previously reserved - has been updated to support NFC contactless.

Authorization Response Code (bit 39) – Response from the State's EBT Host Processor

a. Bit 39: Changed response code for Invalid HIP Amount from FF (current value) to TL (new value).

Data Elements

The ISO 8583 data elements that are deleted, added, or changed in the X9.58 - 2024 standard from the X9.58 -2022 version are identified below.

- Card Authentication Value 2, CAV 2 (bit 36) was added for use in Internet (card-not-present) transactions. State agencies may choose to print it on the card.
- POS Terminal Capabilities (bit 58-5) was added to indicate the input capabilities at the point of sale. The terminal generates at transaction time.
- Integrated circuit card (ICC) system related data (bit 55): Sub-data elements were defined. The terminals, Acquirers and State's Issuer Processors need to support the new bit 55 data elements.

Internet Message Processing

When implementing support for chip card technology, there are changes that have been made to the standards that are relevant. These standards are identified below.

- Terminal capabilities (bit 58-5) shall be "1 - manual; no terminal" for internet presentments and returns.

- Date, expiration (bit 14): shall be mandatory for internet processing. If date is not entered/provided by the cardholder, set to default value of 4912.
- Card Authentication Value 2/CAV2 (bit 36) shall be mandatory for internet processing. If CAV 2 is not entered/provided by the cardholder, set to default value of 000.

1.4 Planning, Implementation, and Transaction Processing Considerations

1.4.1 Coordinating System Upgrades

Retailers, third-party processors (TPPs), and EBT host processors should coordinate system upgrades to support chip processing in alignment with both EMV specifications and the updated X9.58 transaction processing standard. Point-of-sale (POS) systems must be configured to accept chip-based EBT cards, route EMV data elements (including the dynamic cryptogram), and support fallback scenarios when a chip read is unsuccessful. These upgrades may include updating the EBT host processor's switch or authorization engine, revising TPP gateway specifications, and configuring POS terminals to support the EBT Chip card AID and tags defined in Section 2.3.1. These upgrades will also need to account for how each system will respond if a transaction fails.

1.4.2 Testing Prerequisites

Retailers, third-party processors (TPPs), and EBT processors may independently initiate system upgrades to support EMV functionality and new X9.58 transaction standards, however, formal testing and certification will require close coordination among stakeholders (Industry, State, and FNA) to align schedules, ensure resource availability, and avoid bottlenecks that could delay deployment. Key prerequisites for testing include completed hardware and software upgrades, and availability of sufficient testing tools, such as test cards and EMV-capable POS terminals.

1.4.3 Retailer Readiness Variability and Capacity Planning

Stakeholders vary in their current state of readiness to plan and implement system upgrades. Some organizations have already allocated teams and resources to support the necessary changes. Others will need to first identify or assemble internal resources, while some may require additional technical guidance to initiate upgrades. For retailers in particular, internal approval processes and scheduling constraints may introduce further delays. Given these differences in readiness and capacity, implementation efforts will require careful planning and coordination across EBT processors, acquirers, TPPs, retailers, State agencies, and FNA to ensure accuracy, maintain cohesion, and support timely completion certification.

1.4.4 Contactless Implementation Considerations

Stakeholders generally agreed that the implementation timeline for supporting chip contact-only versus combined contact and contactless SNAP EBT transactions will be similar, even though the number of tests or deployment steps may differ. Terminals already deployed in the market and available from vendors use proprietary software modules—known as kernels—to manage the interaction between the card and the POS terminal. The terminals have distinctly separate kernels for contact and contactless functionality and enabling both requires development, configuration and testing of each. While some retailers will implement contact and contactless support concurrently, others will consider them as separate projects due to internal timelines or resource constraints. In these cases, contactless support may follow contact implementation or be deferred entirely. Additionally, retailers that currently lack contactless-capable terminals may need to upgrade POS hardware to enable this functionality.

1.4.5 Fallback Considerations

Fallback occurs when a chip cannot be read or it can be read but the terminal can't find an AID that supports it. Fallback rules are enabled in two separate ways. Technical fallback occurs when the card reader cannot read the card (e.g., card inserted, and the reader cannot read it). This may occur due to a damaged terminal or a damaged chip. It can also occur when the POS terminal cannot find a supported chip AID, which is referred to as an Empty Candidate List (ECL) fallback. The terminal is programmed with rules that define a pre-determined number of times the customer must try to tap or insert the card when encountering a technical fallback. The industry norm is three tries. Once the pre-determined number is reached, the reader will prompt the customer to try a different method.

1.4.6 Payment Options (Supported Payment Methods

Current SNAP EBT payment options include key-entered (manual transactions); there has been discussion in the Industry Forum of whether this option should be removed to prevent fraud. There are no commercial debit or credit cards that support key entry at the point of sale. To ensure SNAP customers access to their benefits, all payment methods, including key-entered, remain available as of the time this document was published.

1.4.7 Card-Not-Present (Online) Transactions

The chip card rollout project introduces the opportunity to add two additional data elements on the physical card: a card security code (CSC), via the CAV-2 value mentioned above, and a card expiration date. Printing the CSC and card expiration date on the card may offer an additional level of security for online transactions. These elements can be entered at checkout on SNAP Internet Retailer (IR) websites to mitigate fraudulent transactions.

Adding these elements has both potential benefits and drawbacks. One possible drawback of the printed card expiration date is customer confusion. The customer could misinterpret the meaning and believe that their SNAP certification or benefits will expire on that date (rather than just the card itself). To mitigate this drawback and reduce customer confusion, the expiration date could be labelled 'Valid Thru', instead of 'Expires.' Another possible drawback is that the State will incur additional costs replacing expired cards that remain technically operable. See more on this topic in Section 3 of this document.

1.4.8 Online Purchasing Updates

As noted above, adding one or both elements may offer an additional layer of security for card-not-present (CNP) transactions. Requiring the cardholder to enter information from the physical card to complete an online transaction provides another verification that they are, in fact, an authorized cardholder. This will require accommodation of the additional data elements in the SNAP Online transaction flow.

Stakeholders agreed that the most effective way to address these updates is to develop and follow universal standards. If new fields are required for SNAP online purchases, customers should have the information to populate all fields from the start. Establishing universal standards can prevent varying experiences across state lines, ensure that there is consistency in the online checkout process (e.g., what data elements are required), and prevent blank fields in the transaction message. Retailer stakeholders noted that the checkout fields are only differentiated based on card type. If all EBT cards do not contain the same information, the update will be difficult to navigate.

Regardless of the result, since states will have different implementation/rollout timelines, a transition period plan will be necessary. If the new fields (e.g., expiration date) are not populated when the transaction message is sent, a default will be used to populate the message fields. Once a message is sent, the EBT processor can review the message, determine whether it should include the new elements, and decline the transaction if the required data elements are missing. One option is to make system updates to accommodate the new data elements (e.g., expiration date, security code) as soon as universal guidance is published. After all states have transitioned to the new EBT chip cards, the online field updates will be made visible to the public. There is detailed discussion of these considerations in Section 3 of this document.

1.5 Certification and Testing

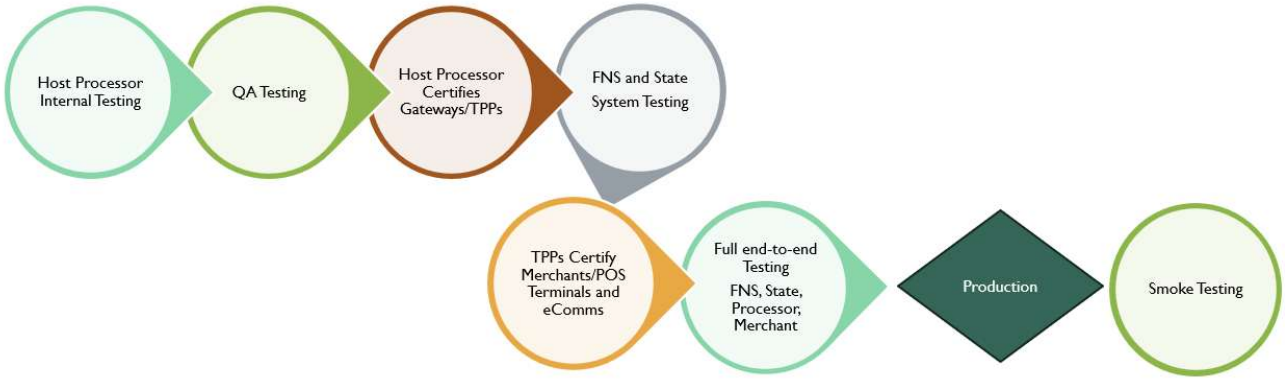

Figure 2: Sample SNAP EBT Chip Card Certification and Testing Process

1.5.1 EMV Certification Requirements

Implementation of chip card functionality for SNAP EBT will require coordinated certification efforts across all levels of the transaction chain, including EBT processors, third-party processors (TPPs), and retailers. While no formal certification authority exists for EBT, structured readiness validation—supported by FNA, State agencies, processors, and acquirers—serves as the functional equivalent of certification. These efforts are necessary to validate that all systems properly support the SNAP EBT application identifier (AID), route chip-compliant data elements, and handle fallback conditions as expected.

- **EBT Processors** must update and publish certification test cases or test data reflecting the new chip messaging specifications. Processors must then conduct formal certification with connected gateways to ensure compatibility.
- **TPPs and Retailers** must certify that their point-of-sale (POS) systems can accept chip card data and transmit all required fields to the TPP. This process includes testing POS software updates, hardware configurations, and readiness of all message elements aligned with the EBT processor's certification standards.
- **Terminal-Specific Scenarios**:

- POS terminals already EMV-certified for debit/credit and capable of supporting the SNAP EBT AID generally do not require individual recertification.
- Terminals that are EMV-certified but not upgradable to support SNAP EBT specifications will require replacement and recertification.
- Stand-alone EBT-only devices will require individual device-level certification.
- Device simulators may be used to support POS-level testing in lieu of physical cards or hardware in some cases.

This multi-step certification process is expected to take several months, especially when factoring in coordination across parties and the availability of test cards, tools, and technical resources.

1.5.2 State and Federal Testing Requirements

In addition to industry-led certification activities, State agencies must complete formal testing prior to any production deployment.

- **State User Acceptance Testing (UAT)** must verify the complete transaction flow from POS through to state systems. Each state may have unique readiness timelines and internal validation needs.
- **Federal UAT**, led by FNA, must validate end-to-end system behavior and confirm conformance with federal program rules and EBT specifications. This testing may include traceability of benefit access, data validation, and fallback handling.
- State and federal UAT activities may each require up to one month per organization, depending on system complexity and test execution schedules.
- Once all certifications and UATs are complete, smoke testing will be required in production environments to confirm readiness and stability before full rollout.
- Notably, state-by-state differences in card design or optional elements (e.g., card security code, expiration date) will not impact POS-level certification since these elements are not required for in-store transactions.

1.6 Contingency Planning

The likelihood of recalling EBT chip cards that have been distributed is very low. EBT cards are designed with several payment type options (e.g. chip, mag stripe, keyed entry) and should the chip fail, the other options remain available. Although not expected, if a State's chip implementation requires rollback, stakeholders agree that retailers and customers will be directed to complete transactions via fallback to the mag stripe. Certification and testing will need to consider these scenarios.

1.7 Section One Summary

The transition to chip technology represents a significant evolution in SNAP EBT transaction processing. Section 1 outlined how the migration from static magnetic stripe transactions to dynamic chip-based authentication reshapes card-present and card-not-present transaction processing, introduces new data elements, and requires coordinated updates across retailers, processors, and state systems.

Successful implementation will depend on more than issuing chip-enabled cards. It will require alignment of terminal configurations, host systems, and certification activities with both EMV specifications and the updated X9.58 standard, as well as careful planning for fallback and online security enhancements.

Section 2 builds on this foundation by detailing the point-of-sale equipment and software updates required to fully enable SNAP EBT chip card acceptance.

Section 2: Chip Card POS Upgrades and Updates

2.0 Scope

This section provides implementation insights and planning considerations related to point-of-sale (POS) upgrades and updates needed to support SNAP EBT chip card transactions. It covers equipment and hardware requirements, software upgrades, terminal configuration steps, and the tools and scenarios necessary for certification and testing. Topics related to transaction processing logic, card issuance strategies, and rollout sequencing are addressed in other sections.

Insights in this section are grounded in stakeholder feedback collected through three dedicated discussion sessions and two targeted document review sessions hosted by the X9 EBT Card Industry Forum. These sessions provided a structured venue for exploring POS upgrade requirements in detail and drew strong participation, with as many as 145 participants in the sessions.

The sub-topics explored in these sessions included:

1. Equipment and Hardware Upgrades
2. Software Updates and Upgrades
3. Terminal Configuration
4. Certification and Testing Tools and Scenarios

The guidance that follows synthesizes stakeholder input and translates it into practical considerations to support retail system readiness, reduce deployment delays, and ensure effective enablement of SNAP EBT chip card acceptance at the point of sale.

2.1 Background: Chip Card POS Upgrades and Updates

SNAP EBT card acceptance at retail locations has historically relied on POS terminals configured to read mag stripe cards. These legacy configurations required minimal interaction between the card and terminal beyond reading static data on the mag stripe and transmitting it to the EBT processor. With the shift to chip card technology, retail systems must now support secure, dynamic interactions between the chip, terminal software, and backend systems to enable real-time authentication and transaction approval.

Chip functionality is implemented at the terminal level through embedded software modules known as kernels, which manage how the card interacts with the device. Chip cards can support both contact (dip) and contactless (tap) interfaces, and each method requires activation and configuration of distinct EMV kernels within the terminals. Many existing retail terminals already support EMV for debit and credit transactions, but accepting SNAP EBT chip cards requires updates to recognize the EBT application identifier (AID), apply the correct transaction logic, and populate the resulting message in compliance with updated X9.58 standard and chip specifications.

In addition to software upgrades, some terminals may require hardware enhancements, particularly for contactless acceptance or if existing devices lack chip card readers altogether. Retailers and third-party processors (TPPs) must assess terminal capabilities and determine whether upgrades, replacements, or full system refreshes are needed to support EBT chip card transactions. For integrated POS environments, these changes must align with the retailer's broader software lifecycle and may require coordination with both vendors and EBT processors to ensure compatibility.

POS terminal-level changes alone are not sufficient. Successful enablement of SNAP EBT chip card functionality depends on consistent configuration across the entire transaction path—including terminal settings, POS software updates, TPP gateway changes, and host system logic. Each of these components must be able to support chip transaction data, manage fallback procedures, and pass all required fields through the transaction message.

Unlike the issuance of EBT chip cards, which can be centrally managed by the State, terminal update timelines will vary widely across the retail landscape. This variability means that SNAP households may encounter a mix of card-present experiences during the transition period—ranging from seamless chip-based transactions to environments where fallback is required. Achieving consistency across retailers will require proactive planning, stakeholder coordination, and clear technical guidance to mitigate disruption and support a smooth rollout.

2.2 POS Update Requirements

Most retailers have already deployed EMV-capable point-of-sale (POS) terminals that support chip card transactions for the major payment networks (credit and debit). To enable acceptance of SNAP EBT chip cards, these existing chip terminals will generally require additional configuration updates, though typically not hardware replacement. The necessary updates involve adding support for the SNAP EBT Application Identifier (AID), confirming proper transaction parameters, and completing SNAP EBT test transactions to validate end-to-end processing.

2.2.1 Hardware Capabilities

Most POS terminals in the field already include contact chip readers, and many also support contactless transactions. Terminals must be equipped with chip readers (for contact) and, where applicable, contactless readers.

- Retailers planning to accept contactless EBT chip transactions should confirm that their hardware supports the Mastercard C-2 contactless kernel and already supports contactless transactions.

2.2.2 Software Capabilities

Most EMV terminals already include the necessary software to process chip card transactions. In most cases, enabling and configuring the SNAP EBT Application Identifier (AID) within the existing EMV software is sufficient to add support of EBT chip cards (see Section 2.3).

- Software updates may be required under the following circumstances:
  - The terminal does not currently support Empty Candidate List (ECL) fallback, which enables a transaction to proceed using the magnetic stripe when the terminal does not support the EBT AID.
  - The terminal hardware supports contactless (tap) transactions, but the software to enable contactless processing is not activated. In these cases, the contactless software must be enabled.

2.2.3 Configuration Updates

Configuration changes are required to correctly support the SNAP EBT application. These updates ensure that transaction handling aligns with SNAP operational and security requirements. The following bullets highlight key operational requirements addressed through terminal configurations. Detailed configuration parameters are provided in Section 2.3, and

additional explanation of the Application Identifier (AID) and fallback logic is included in Section 2.3.1 to support consistent implementation across stakeholders.

- Adding the SNAP EBT Application Identifier (AID), which is necessary to map to the configuration settings defined in Section 2.3 Terminal Configuration Settings.
- Setting floor limits to $0 and disabling offline approvals to ensure all transactions are processed online.
- Enforcing correct Cardholder Verification Methods (CVMs), requiring online PIN entry and disallowing PIN bypass.

2.2.4 Testing and Validation

Testing ensures that configuration changes function as intended and that SNAP EBT transactions are processed successfully in both normal and fallback conditions.

- Use EBT chip test cards to validate that terminal configurations perform as expected before rollout.
- Verify that terminals correctly handle the SNAP EBT Application Identifier (AID), transaction flow, fallback scenarios, and message content.
- If terminal software changes are required for any reason, chip terminal recertification processes may be required.

These updates are limited to terminal enablement and configuration. There are no changes to settlement processing, reconciliation procedures, dispute management, cut-off times, or BIN structures associated with this implementation.

2.3 Terminal Configuration Settings

The configuration settings described in this section define how POS terminals must be set up to process SNAP EBT chip card transactions in accordance with EBT chip operational requirements. These parameters ensure that terminal behavior aligns with SNAP program rules—such as requiring online authorization, enforcing PIN entry, and supporting fallback processing when necessary.

Application Name: EBT

AID: A0000000044542

Application Currency Code: 0840-US dollars

Service Code: 220

- 2 – Chip present on the card
- 2 – Online authorization required
- 0 – PIN required

Cardholder Verification Method (CVM): All EBT transactions require an online PIN.

- Online PIN required
- No PIN-bypass allowed.
- Consumer Device (CD) CVM will not be supported.

Contactless Kernel (where applicable): Mastercard C-2 contactless kernel.

Floor Limits: Zero (0).

Terminal Action Code (TAC) values:

- Contact:
  - TAC Denial 00 00 00 00 00
  - TAC Online B0 50 9C 80 00
  - TAC Default B0 50 9C 80 00
- Contactless:
  - TAC Denial 00 00 80 00 00
  - TAC Online F4 50 04 80 0C
  - TAC Default F4 50 04 80 0C

2.3.1 Application ID and Terminal Configuration

The SNAP EBT Application Identifier (AID A0000000044542) enables POS terminals to identify EBT chip cards and apply the corresponding configuration settings required for SNAP transactions, including online PIN entry and defined fallback procedures. The AID combines the Mastercard registered application provider identifier (RID) with a proprietary EBT application identifier extension (PIX), ensuring compatibility with established EMV processing frameworks while maintaining SNAP EBT program-specific functionality.

As described in Section 2.2, terminals that do not yet recognize the SNAP EBT AID must be able to support Empty Candidate List (ECL) Fallback. This functionality allows the transaction to continue using the magnetic stripe when the AID is not recognized. When an ECL fallback occurs, the terminal should display "Application Not Found" or "Card Not Supported" and prompt the cardholder to swipe the card, rather than requiring multiple chip-insert attempts.

Those implementing EBT chip at POS should ensure that POS terminals are configured to support both new SNAP EBT chip cards and existing magnetic-stripe cards throughout the transition period and for as long as mag-stripe cards remain in circulation. These configurations do not alter settlement, reconciliation, or dispute processing but help ensure seamless acceptance as States migrate to EBT chip technology.

2.4 Implementation Preparation and Readiness

This section provides guidance to help States, EBT processors, acquirers, and retailers prepare for SNAP EBT chip enablement at the point of sale. It outlines practical steps to assess current POS environments, confirm configuration compatibility, coordinate system updates, and validate readiness across retail networks. The goal is to promote consistent implementation, minimize disruption during rollout, and ensure that cardholders experience reliable access to benefits throughout the transition.

2.4.1 Retailer Readiness Overview

Retailers must ensure that their POS systems are configured to process SNAP EBT chip card transactions accurately and securely. Readiness levels vary by organization, reflecting differences in POS configurations, software versions, and internal resource capacity to manage the required changes.

Large multi-store retailers often have established technology teams and defined upgrade schedules, while smaller or independent retailers may require additional coordination, internal approvals, or external technical assistance before initiating updates. Because system-change queues can extend for months, retailers are encouraged to engage early with their acquirers, POS providers, and EBT processors to confirm upgrade requirements and secure a place in upcoming release cycles.

Close coordination among all partners—retailers, EBT processors, acquirers, third-party processors, and State agencies—is critical to ensure that upgrades, testing, and deployment activities proceed in an orderly and synchronized manner. Conducting EBT chip implementation activities in parallel with other scheduled POS updates can minimize disruption and reduce costs by avoiding duplicate efforts.

2.4.2 Assessing and Planning for Terminal Enablement

A thorough system assessment is an essential first step in determining whether existing POS terminals can support SNAP EBT chip card acceptance. Retail environments often contain multiple terminal models with differing hardware and software capabilities, sometimes even within the same chain or brand. Some terminals are older and cannot support software upgrades, while others include chip readers that were never activated for payment use; though these may be rare, both types will require replacement before EBT chip functionality can be enabled.

Most retail terminals already support EMV chip transactions, and in most cases, only configuration updates should be needed to enable SNAP EBT chip acceptance. Retailers should work closely with their current acquirers and POS vendors to assess the state of their terminals and confirm that they support the necessary EMV functions, including proper Empty Candidate List (ECL) fallback behavior and, if applicable, contactless (tap) transaction capability. As part of this assessment, retailers should also discuss the process for adding support for the SNAP EBT Application Identifier (AID) to ensure that transactions are properly recognized and processed. Access to manufacturer-provided configuration documentation and kernel information can help verify these capabilities and determine whether additional updates are needed—or if a terminal should be replaced—to fully support SNAP EBT chip transactions.

Retailers should document the results of their assessment, including terminal inventories, software versions, and any upgrade packages required. When conducting these assessments, retailers are encouraged to leverage the technical resources available on the USDA Food and Nutrition Administration (FNA) website, which provides implementation guides, configuration references, and test cases supporting the SNAP EBT chip initiative. Refer to the Resources section in the Appendix of this document for more information.

2.4.3 Implementation and Validation Activities

Once terminal enablement requirements are defined, implementation planning should focus on deploying the identified upgrades and confirming end-to-end readiness through testing. Retailers, acquirers, and processors should coordinate implementation schedules to ensure alignment with State rollout timelines and to confirm that updated terminals support both the SNAP EBT AID and proper fallback behavior.

EBT processors and acquirers are distributing test cards and test scripts to assist retailers in validating transaction processing and message handling. Using these tools during internal testing helps verify that configurations operate as expected and that both chip and magnetic-stripe EBT transactions process correctly throughout the transition period. Retailers and POS processors should

contact their State EBT office, State EBT processor, the SNAP EBT Modernization Technical Assistance Center (SEMTAC), or FNA for instructions on obtaining EBT chip test cards.

Under the SNAP EBT chip program, supported card-present entry options include tap, insert, swipe, and manual entry. Manual entry, while less secure than chip or contactless transactions, will remain available during the transition to ensure uninterrupted household access to benefits.

State, retailer, and POS provider implementation teams should monitor lessons learned from early-implementation States to refine workplans, staff training materials, and communication with cardholders and retailers. Ongoing coordination among partners will help ensure that implementation activities remain consistent with guidance and that retailer readiness validation is completed accurately and efficiently.

2.5 Interoperability

Interoperability in the context of the SNAP EBT chip card program refers to ensuring that EBT cards function consistently and reliably across all participating States and retail environments. The transition from magnetic stripe to chip technology may present challenges to interoperability due to the State-by State nature of EBT chip implementation. However, the requirement for nationwide interoperability of EBT cards remains. Because States will transition to chip issuance on different timelines, some cardholders will begin receiving SNAP EBT chip cards before all retailers have completed their terminal updates. This gap increases the importance of ensuring interoperability — across States and for both magnetic stripe and chip card types—to ensure uninterrupted benefit access for households and avoid transaction declines during the transition.

Maintaining these forms of interoperability requires proactive monitoring and coordination among States, EBT processors, acquirers, and retailers to ensure that fallback behavior functions as intended. Empty Candidate List (ECL) fallback processing must be supported and actively verified as part of these efforts. Where ECL fallback is not yet enabled, retailers should prioritize implementing it as quickly as possible to prevent transaction interruptions and ensure continued benefit access during the transition.

2.6 Testing and Readiness Validation

EBT chip card implementation requires rigorous, coordinated testing to ensure systems perform correctly before statewide rollout. While no formal certification authority exists for EBT, structured readiness validation—supported by FNA, State agencies, processors, and acquirers—serves as the functional equivalent of certification. These collaborative efforts confirm that terminals, host systems, and message formats handle chip transactions, fallback behavior, and EBT-specific processing parameters correctly. Testing occurs in two key phases:

2.6.1 ECL Fallback Validation

Early testing should focus on confirming proper Empty Candidate List (ECL) fallback behavior at the point of sale. Retailers should work with their third-party processors (TPPs) and acquirers to verify that all chip-enabled terminals not yet configured for the SNAP EBT AID can perform ECL fallback correctly. Lessons learned from early implementation States continue to inform this phase, improving test scripts and guidance materials for subsequent rollouts.

2.6.2 AID Acceptance Testing

The second phase verifies that updated terminals can recognize and process the SNAP EBT Application Identifier (AID). Following completion of system updates, EBT processors provide test data and updated test cases to acquirers and gateways. Retailers should use provided test cards and simulation tools to confirm proper handling of the AID, transaction flow, and message content.

Testing timelines may vary by organization. Retailers should plan sufficient lead time to coordinate with acquirers, processors, and terminal vendors, particularly when software updates or device replacements are required. EMV-certified terminals capable of supporting the EBT AID typically will not require recertification with the global networks; however, devices requiring software modification must follow standard recertification procedures defined by those networks.

Finally, States should conduct end-to-end user acceptance testing before any production release. Smoke testing should be performed after deployment to verify operational readiness. FNA reserves the right to conduct testing on an as needed basis.

2.7 Section Two Summary

Successful implementation of SNAP EBT chip card capabilities depends on early preparation; coordinated updates and testing; and active communication among States, processors, acquirers, and retailers. Each partner plays a critical role in ensuring that POS systems can process both existing magnetic-stripe and new chip-based transactions without interruption.

By enabling support for the SNAP EBT Application Identifier (AID), confirming proper fallback behavior, and validating readiness through structured testing, stakeholders can ensure a smooth transition to chip technology while maintaining uninterrupted access for cardholders. Lessons learned from early implementation States will continue to inform refinements to rollout sequencing, communication materials, and testing procedures.

Ongoing collaboration among FNA, State agencies, EBT processors, and industry partners will be essential to maintain alignment, share implementation insights, and promote consistency across jurisdictions. Applying these practices will strengthen the security and reliability of SNAP EBT transactions and support a more resilient, future-ready payments environment.

Section 3: EBT Card Options and Card Replacement

3.1 Scope

This section provides implementation insights and planning considerations related to card options and cardholder replacement strategies for SNAP EBT chip cards. It is grounded in stakeholder feedback collected through a series of open forum and stakeholder-specific discussion sessions hosted by the X9 EBT Card Industry Forum.

Feedback and perspectives were drawn from three dedicated sessions attended by a broad mix of EBT stakeholders, including State agencies, EBT processors, technical consultants, and card manufacturers. Topics explored in these sessions included card issuance logistics, cost and lifecycle trade-offs, replacement card workflows, and cardholder communication strategies.

The following insights synthesize key points raised by stakeholders and translate them into implementation-oriented guidance to support program design, improve efficiency, and mitigate rollout risks.

3.2.1 Background

This section provides a high-level overview of SNAP EBT card issuance practices to help contextualize card issuance and replacement options. Note that as EBT chip technology is being rolled out across the country, card issuance practices are changing and will continue to change.

All 50 States, the District of Columbia, the Virgin Islands and Guam issue SNAP EBT cards to households who qualify for SNAP and other needs tested public assistance programs. EBT cards are provided for ongoing benefit issuance and redemption (e.g., monthly SNAP benefits) and for one-time or limited duration programs (e.g. Summer EBT, DSNAP). Once SNAP eligibility is confirmed, the State agency issues an EBT card. Typically, one card is issued per household; however, there may be multiple household members authorized to use the EBT card and in some States a second card may be issued to an Authorized Representative. SNAP EBT cards are not issued in Puerto Rico, which operates a separate Nutrition Assistance Program (NAP)

Mag stripe EBT cards can be used at participating SNAP retailers in all U.S. States and Territories except Puerto Rico. For card present transactions (e.g., at a physical location) SNAP customers may pay for food by swiping a mag stripe card on the POS device. To verify that they are authorized to use the card, the customer enters their 4-digit PIN.

Before cards are issued to cardholders, the cards are personalized. The personalization process includes printing or embossing information on the plastic card and encoding information on the magnetic stripe which is unique to the cardholder's card. EBT cards currently include a primary account number (PAN) embossed or printed on the card (front or back) and encoded on the magnetic stripe (mag stripe) along with a 120-service code. The service code informs the payment terminal (POS, ATM, etc.) how to process the card and enforces certain usage restrictions or requirements. It helps ensure the transaction complies with the card issuer's rules and card capabilities. The 120-service code conveys the following information to the terminal:

- 1 – Mag Stripe Card
- 2 – Online authorization required
- 0 – PIN required

Some EBT cards also include a card expiration date that is encoded on the mag stripe but not printed on the card.

Card personalization and issuance are supported by the State agency's EBT Processor vendor. State agencies issue EBT cards using different methods. Most often, EBT cards are issued by mail to the SNAP household. Cards may also be issued in person to SNAP households at the State and Local offices; this is referred to as "over the counter" or "OTC" issuance. Following card issuance, SNAP households establish a PIN. This secondary process may be initiated by the SNAP household or an Authorized Representative (using the call-in, online client portal, or PIN Select POS device) or by the State agency (mailed in a separate mailer than the EBT card). EBT processors provide an administrative system that supports and tracks the EBT cards issued (to clients and to States) in addition to the benefits assigned to the cards, cardholder information (e.g., address, PAN) and transaction data.

EBT cards may be reissued or replaced under several circumstances. Replacements are issued when cardholders report their cards are damaged, lost, or stolen. They are also replaced when the State makes updates or changes to the card design (e.g., shift PAN to back of card) or components (e.g., addition of a CVV).

3.2.2 Future State with implementation of EBT Chip technology

EBT chip cards introduce cryptography-based authentication, enabled by the chip, to enhance payment security beyond the traditional PAN and mag stripe. Some chip cards will be contact-only (e.g., require insertion into a card reader) and some will have dual-interface capabilities. Dual-interface chips support both card insertion and contactless tapping payment methods. Both use the same cryptographic authentication technology. In addition, a 220-service code is encoded on the mag stripe instead of the 120-service code. The 220-service code conveys the following information to the terminal:

- 2 – Chip present on the card
- 2 – Online authorization required
- 0 – PIN required

If the mag stripe of an EBT chip card is swiped at POS, the first digit '2' signals to the terminal that the card has a chip and should be inserted or tapped instead, and the second digit '2' indicates that authorization must be performed online. Finally, the '0' indicates that PIN entry is required for the transaction.

Early EBT chip implementation States have opted to print the PAN on the back of the card. To align with the 2024 X9.58 updates that accommodate additional fields, the early-implementation States have also opted to print an expiration date and card security code on the back of the card. These are items that will need to be decided by all States implementing EBT chip cards.

Going forward, EBT chip cards may or may not be distributed through the same channels States have used in the past given the new chip programming capability that will be required at each card issuance location. Migration to chip provides an opportunity for States to evaluate their current distribution approach and what will work best for chip card issuance in their State. The circumstances requiring ongoing card replacement will remain the same, with the additional need to replace cards when they expire if a card expiration date is being used. For initial chip card implementations, States will need to develop and coordinate a comprehensive card replacement strategy to ensure that existing magnetic stripe EBT cards are replaced with new SNAP EBT chip

cards, that recipients receive and activate the new cards, and that they are successfully able to perform transactions. States also need to plan for deactivation of magnetic stripe cards.

3.3 Card Options and Card Replacement Considerations

3.3.1 State and Local Office Equipment

The shift to SNAP EBT chip cards requires that new cards are produced and issued to all SNAP households and that an inventory of chip cards is maintained by the State for ongoing issuance and replacement of cards. States may order the new EBT chip cards through their EBT Host Processor. Blank chip cards will be retained by the EBT Host Processor and printed, personalized and distributed by mail when they receive notice that a new card needs to be issued. Other cards may be provided to the State for printing and personalization at State and local offices.

States that issue cards at state or local offices should evaluate their existing card personalization equipment. In many cases, card printers and related devices will need to be upgraded or replaced to support chip card issuance. States should work closely with their EBT host processor and vendors to assess equipment needs, develop a replacement plan, and account for ordering lead times.

New equipment should be ordered several months in advance to avoid supply delays and ensure there is time for testing and staff training. Once received, equipment must be securely stored until deployment.

States with specialized personalization needs may require additional coordination and lead time. Clear communication with local offices is critical to ensure proper storage, testing, and implementation. Outdated equipment should be securely managed and disposed of in accordance with state policy.

3.3.2 PIN and PINing Equipment (PIN Selection)

Since a mag stripe is still present and functional on EBT Chip cards, the State's existing card PINing equipment (which uses the mag stripe) can still be used to PIN the new chip cards. Although support for EBT chip cards doesn't require changing PINing equipment or methods, some states may decide to make changes for other reasons. For example, California decided to replace all PINing equipment with devices that allow card insertion. Each State should assess the need to replace card PINing machines in their early implementation planning and decide on replacement strategies.

3.3.3 Vault Cards

States and local offices retain EBT card stock primarily for two purposes: (1) ongoing over the counter issuance of SNAP EBT cards, and (2) one-time or limited-duration use, such as for Disaster SNAP (DSNAP) or other short-term benefit programs. In some cases, card stock is also retained for emergency issuance when immediate card access is needed.

During the initial rollout of SNAP EBT chip cards, States may adopt different transition strategies. Some states—particularly those where DSNAP or other temporary issuance is infrequent—may choose to retain a limited supply of magnetic stripe card stock for short-term, one-time use. In such cases, mag stripe cards may be used temporarily and if applicable, replaced with a chip card shortly thereafter (e.g., within 90 days). Other states may opt to fully replace all vault card stock, including mag stripe cards held for temporary or emergency use, with chip card stock from the outset.

All unissued magnetic stripe card stock that is not retained for a defined short-term purpose must be securely logged and destroyed in accordance with applicable policies.

In preparation for the mass replacement of magnetic stripe cards with chip cards, states should adjust their mag stripe card order volumes to minimize excess inventory and reduce waste.

3.4 Card and Personalization Options

EBT chip cards will vary from State to State; however, the physical card and chip will still be required to meet the following ISO standards:

- ISO 7810 for physical characteristics (e.g., dimensions, thickness)
- ISO 7811 embossing and magnetic stripe encoding
- ISO 7816 for contact chip
- ISO 14443 for contactless chip when dual-interface

While each state may include unique design elements, all cards will feature a chip, magnetic stripe, and a printed PAN. States are encouraged to also print the card security code and expiration date, both of which will be encoded on the magnetic stripe. States will have the choice to issue contact-only chips (e.g., require insertion into a card reader), or dual interface chips (e.g., support both insertion and tapping). In addition, some will have an embossed (raised) PAN and others will have a printed (flat) PAN. The discussion on whether the PAN will be printed or embossed did not result in any concerns raised by the group specific to either method.

3.4.1 CHIP Personalization

For EBT chip cards, there is an additional personalization step which is to configure the chip application that resides on the chip to the chip profile that has been selected. A chip profile is a packaged configuration of chip operational parameters. For EBT chip cards, the profiles can simply be referred to as contact only or dual interface. Each State will need to clarify with their issuing processor which profile they plan to deploy.

3.4.2 PAN

Every SNAP EBT card includes a printed PAN. This is a unique identifier on the physical card that links the cardholder to the SNAP benefit account. States will have the option to print the PAN on the front or back of their new cards. To reduce opportunities for fraudsters to access a cardholder's PAN, some States decided to print the PAN on the back of the new EBT chip cards.

3.4.3 Card Security Code

The new EBT chip cards can include a 3-digit card security code (CSC). Similar to the PAN, this is a unique identifier on the physical card. If adopted, the CSC should be printed on the back of the card. The card security code is primarily intended for online purchases to provide an additional layer of security and can also be used for activating and PINing the card.

3.4.4 Expiration Date

Magnetic stripe EBT cards are currently coded with a default expiration date of 12/49 (December 2049). In most States, this date is not printed on the EBT card plastic and "12/49" is largely unknown to EBT cardholders. It is never prompted for cardholder identification purposes or for purchases. It is transmitted in the transaction message as a default value and is checked by the EBT Host Processor.

The primary motivation for the transition to EBT chips cards is fraud prevention, and adding a unique (vs. default) expiration date on EBT cards could be an effective additional tool in preventing fraudulent transactions. For an EBT card expiration date to provide an additional layer of security, the following elements should be in place:

- The expiration date should be assigned to the card at the time of issuance based on the State's chosen formula, and printed on the back of the EBT card in "MM/YY" format
- It must be written to the chip
- It must be encoded on the mag stripe
- In online transactions, the retailer website must prompt the cardholder to enter the expiration date during checkout
- The EBT Host Processor must validate the date in transaction authorization

The following considerations for applying EBT card expiration dates have been raised and are discussed in the subsections below:

- Ongoing costs to States for replacing expired cards
- The lifespan of the chip
- Communication with cardholders
- Implications for EBT online purchasing

3.4.4.1 Ongoing costs to States for replacing expired cards

Related to cost, there are several possible approaches for States to consider in including an expiration date on their chip cards:

- One is to include a specific expiration date set in the future (e.g., three to five years from card issuance) at which time the card will need to be replaced in advance of its expiration to avoid interrupting the cardholder's benefit access. Card expiration and replacement cycles of three to five years are EMV industry standard practice. This is likely to be the most expensive option for States.

- Another option is for a State to choose to have cards expire on a schedule longer than the standard replacement cycle of three to five years. For example, States could choose for cards to expire eight or ten years from issuance. While it is less expensive and still provides an additional security feature, this expiration date option does present a risk that older cards will become inoperable before they expire, leaving cardholders without access to benefits while they await a replacement card.

- It is also possible for States to use the traditional default EBT expiration date of 12/49, which does not have any bearing on card replacement timelines. If the default 12/49 date is used, the additional security functionality will be less effective in preventing fraudulent use, and cards in circulation for more than 5 years may become inoperable due to the lifespan of the chip. It's also been suggested that printing "12/49" on the card plastic may cause confusion because it is dissimilar from the expiration dates used for credit and debit cards.

States should analyze available data about EBT cards in circulation in deciding how to apply expiration dates in their EBT chip projects. Data about the average age of circulating EBT cards and replacement timeframes for their cardholder base will be useful.

3.4.4.2 Communication with Cardholders

Because EBT cards have not traditionally included a printed expiration date, it will be important to help cardholders understand that the date printed on the card is specific to the card expiration and not the expiration of their SNAP benefits or certification period. Labelling the card expiration date as 'valid thru,' 'good thru,' or 'card exp date' might be helpful in communicating the significance of the date to cardholders.

States should update their card mailer inserts, cardholder portals, IVR scripts, and call center scripts with information about the card expiration date.

3.4.4.3 Implications for EBT Online Purchasing

Participants in the industry forum discussion sessions emphasized that how expiration dates are handled will directly impact online EBT transactions. Because States may implement different approaches to expiration dates, this creates challenges for merchants in determining how best to accommodate card validation. While this section does not prescribe or recommend a specific approach, it presents important considerations for States to incorporate into their rollout strategies, outlines the current standards for handling expiration dates, and highlights key factors that must be addressed as part of EBT chip card rollout planning.

The 2024 version of the X9.58 EBT Standard, section C.7 Internet processing, states:

> *Expiration date (bit 14) shall be mandatory for internet processing. If date is not entered/provided by the cardholder, set to default value of 4912.*

Currently, the default expiration date of 12/49 ("4912") is populated in the transaction message by the retailer, eCommerce platform, or TPP and it is validated by the EBT Host Processor. It is not requested by the retailer from the cardholder at online checkout.

When unique expiration dates are deployed, retailers accepting EBT online will need to modify their checkout flows to prompt cardholders to enter the expiration date from their card. This presents challenges due to the State-by-State rollout of EBT chip cards that include printed expiration dates because EBT cards without a printed expiration date will remain in circulation.

Options for EBT online retailers related to card expiration dates include:

- Coding their systems to prompt for the expiration date by State BIN
- Creating an optional field for the expiration date with a prompt describing when it must be entered (e.g. "If your card includes an expiration date, you must enter it here.")

Neither of the options above is failsafe:

- Retailers coding by BIN to prompt for the expiration date cannot accommodate for mag stripe cards (12/49, not printed on card plastics) that remain in circulation during the card replacement period.
- On the other hand, cards without a printed expiration date could be validated with the default 12/49 value, but the new cards with unique expiration dates could not.

3.4.4.4 Considerations Related to Chip Card Reissuance Cycles

Understanding the structure, certification requirements and key management practices associated with EMV chips is important for assessing how long a card can remain in circulation before needing to be reissued. An EMV chip combines two parts: the physical hardware (the secure microprocessor embedded in the card) and the software application loaded onto it (such as Mastercard's M/Chip). The hardware provides a secure platform, while the software, together with the cryptographic key management, enables secure transaction processing.

EMVCo maintains the global specifications that define how chip technology functions across hardware and software components. These specifications serve as the foundation for secure, interoperable chip-based transactions. Global card networks build on these specifications to create their own implementation and certification requirements for both the physical chip and associated software application. These requirements ensure consistent, secure, and reliable performance across their ecosystems. The certification programs are established and enforced by the card networks and include defined timelines for how long a chip may be used in card issuance before recertification is required.

In general, certified EMV chip hardware may be used in card issuance for approximately 10 to 15 years before reaching end-of-life and requiring replacement. In contrast, the software application loaded onto the chip—such as Mastercard's M/Chip—may be subject to more frequent certification renewals to ensure compliance with evolving transaction security and EMV functionality requirements. Unlike commercial payment cards, EBT chip cards do not have a dedicated card network responsible for developing and maintaining certification requirements. To ensure consistency with broader card industry practices, it is advisable for States to align with Mastercard certification requirements, given that EBT chip cards use the Mastercard M/Chip EMV application (at the time this paper was published). This alignment helps ensure continuity with established EMV industry standards.

In addition to the physical chip lifecycle, chip cards also rely on secure cryptographic key management for the software-based functions that enable transaction security. SNAP EBT transactions utilize only the online security features and will not implement the offline security functionality (offline data authentication, or ODA), which is consistent with most chip cards issued in the United States. As a result, the public key infrastructure (PKI) certification requirements used to support ODA do not apply. Instead, transaction security relies on symmetric keys managed by the issuer to generate and validate dynamic cryptograms online. These symmetric keys are loaded onto the chip during personalization and must be supported for the life of the card, meaning that the issuer-side key management policies for these keys directly influence how long a card can remain in circulation.

Given the lifecycle and key management factors outlined above, a best practice is for States to work with their EBT processors and card manufacturers to ensure that card expiration timelines align with operational policies, security considerations, and broader chip lifecycle planning.

3.5 Card Replacement and Lessons Learned

3.5.1 Key Lessons from Past Card Replacement Efforts

In support of transition to SNAP EBT chip cards, States will need to carefully establish rollout and card replacement strategies. Although rollout strategies may differ from State to State, forum stakeholders noted these lessons learned from previous mass replacement initiatives include:

- Performing thorough case cleanup prior to implementation.
- Leveraging timely and consistent communication strategies across all stakeholders.
- Utilizing multiple card distribution methods to meet diverse household needs.
- Taking a phased approach to card distribution, allowing for manageable rollouts and adjustment points.
- Carefully tracking and monitoring card replacement progress and card activation trends and adjusting strategies as needed.

3.5.2 Card Activation and Deactivation Considerations

During the initial card replacement, a cardholder activating their new chip card automatically deactivates their old mag stripe card. It is important to allow a transition period during which the old card remains active in case cardholders do not activate their new card right away. States should determine an appropriate lag time based on their operational needs; for example, at least 45 days up to 90 days before deactivating old cards. This time lag helps ensure uninterrupted access to SNAP benefits and gives each household the opportunity to receive, activate, and select a PIN for the new card. It also allows the State time to identify and resolve problems, assess and adjust distribution efforts as necessary, answer questions on new card activation, and ensure that the new cards are in the hands of households before the old cards are deactivated.

3.5.3 Case Cleanup

Cleanup is a critical preparatory step for a successful rollout. Each State will have unique tasks based on their systems and data quality. Key activities include:

- Validating and updating household mailing addresses. States should work closely with their SNAP caseworkers, other benefit programs (e.g., Medicaid, Education), and community partners.
- If the State works with their EBT Host Processor to mail replacement cards, the State will need to ensure all mailing address files and records accessible to the vendor are up to date.
- Given that EBT chip card implementation will introduce new challenges and opportunities, States are encouraged to review State options and waivers prior to implementation to ensure their needs are met. States may also determine that certain programs should not be converted at this time. Each State should assess these considerations based on its operational context and program goals.
- Review and consider options for EBT cards/benefits that haven't been used for a period of time.

3.5.4 Interactive Voice Response (IVR) Updates

An IVR is a dial-in customer service inquiry system that is a vital communication channel. Households use the IVR for many purposes, and updates will be required to support chip card implementations.

- One early implementation State planned to update the IVR script to include information on the shift to chip cards and, if needed, how to access additional support. The early announcements/message updates will revert once the initial rollout is complete.
- When planning updates for the IVR and all rollout communications, it is important to establish and maintain consistent terminology. For example, if the cards are referred to as 'chip-enabled EBT,' all messaging and communication should use that phrasing. If any new phrasing is introduced, it should be clearly defined or explained to the audience.
- If new steps are added in the IVR validation process (e.g., a requirement to enter the card security code), it is important to describe in the IVR prompt where on the card the household will find this information.
- IVR updates and process changes can be confusing and difficult for some households to navigate; States should provide multiple support access point options during rollout (e.g., other card PINing options).

3.5.5 Card Replacement Strategy

Distributing new EBT chip cards to all households in a State will require a carefully coordinated effort. States will need to rely on their SNAP program staff, as well as support from community partners, their EBT Host Processors, and FNA. The goal is to deliver new cards to SNAP/EBT households, for the household members to confidently and successfully use the new card for purchases, and to properly dispose of their old, deactivated card. The mass card replacement effort should be supported by multiple distribution strategies including mail, over the counter, and by establishing other access points as needed to accommodate all households.

The overall strategy for card replacement will vary based on State capacity and the needs identified in the implementation planning phase. California, an early implementation State, established their card replacement plan based on a fraud reduction priority. Each State will need to identify priorities, gather data to support the plan, and design their own card replacement strategy (e.g., by geographic location, cardholder groups) in a way that makes the most sense for their households.

Special attention will be necessary for households that do not have a mailing address. Some States have vault cards at the State and local offices available for over-the-counter issuance and pick-up. Other SNAP State agencies should work with program partners to find the most effective method to issue new cards. States may have case workers embedded in community organizations such as shelters who can distribute new cards. States that do not issue over-the-counter cards may consider encouraging households without a mailing address to use the county or local office for receipt of State mail.

Mailed delivery should look similar to each State's existing card distribution method. In some cases, mailed cards will include the return address of the EBT Processor. In other cases, the return address will be the State office address. These strategies ensure that undeliverable cards are returned to the correct location and control destroyed.

Once card distribution begins, States may encourage or require households to change their PIN. To ensure that the new PIN is secure, States may decide to have functionality built in to block certain

PINs. An example of those that are unacceptable are PINs with consecutive or repetitive numbers and those that are the last four digits of the card PAN.

States and their vendors should carefully track card activation and PINing data to ensure households are receiving and activating the new cards. This tracking will also serve to identify gaps or areas that may need additional or enhanced communication. Gaps (geographical or household groups) in card activation may indicate that the population is struggling to navigate the process.

3.6 Communication

A strategic, timely, focused, and controlled communication approach will be required to support each implementation. Communication timing will be just as important as the content.

States will need to:

- Plan communications with each stakeholder group to prepare, coordinate, and educate them on the chip card replacement and overall rollout
- Develop a communication plan early in the planning phase that includes all relevant stakeholders keeping in mind that the earlier retailers and POS providers are aware, the more time they will have to update their systems
- Gather and consolidate feedback to inform communication strategies throughout the implementation
- Coordinate with their EBT Host Processor to plan the implementation timeline, tasks, and activities
- Assemble a project team and define roles and responsibilities

Advance notice will be required to prepare State staff in all offices to initiate case cleanup tasks and activities, prepare for equipment updates and upgrades, gather input on card distribution strategies, and prepare to support the change and manage inquiries throughout the card replacement process. Once advance notice is provided, regular updates will keep staff informed of the overall implementation status and inform each staff member of their role and expectations to support the implementation.

Merchant notification and communication will be a combined effort based on the rollout strategy. So that they can better prepare to support the rollout, merchants need early notification that includes an anticipated timeline. Ongoing merchant communication will come from States (e.g., timeline updates), the merchant's TPP/acquirer (e.g., test scripts, tools, resources), and USDA FNA (e.g., notifications, test scripts, and resources). Streamlining communication and aligning avenues for feedback are important to ensure clear and consistent messaging.

To effectively provide input and support during rollout, other stakeholders (e.g., community organizations, schools, local government offices, supportive services) will also need advance notice. Trusted partners may assist in identifying an equitable approach to educating and preparing households for the transition, supporting card replacement activities, and managing inquiries during rollout. Community partners are essential in rollout support for many household groups (e.g., limited English proficiency, severely disabled, housing insecure, rural). They already have strategies and outreach procedures embedded in their work to enhance the State's communication and rollout efforts.

SNAP households will need early and consistent communication and notification leading up to and during rollout. Messaging should come from multiple outlets. The State will provide formal notice of the card replacement, including assurance that the new cards are authentic, and contact information for support. Posters and brochures at local offices will help to announce the chip card rollout and highlight the benefits. The EBT client portal and program mobile apps can include messages and updates throughout the card replacement process. Banners and announcements can be added to the EBT cardholder and retailer web portals and IVRs. It can also be helpful to coordinate announcements or segments with local radio and TV stations.

Household communication needs to clearly state what the new card will do (e.g., replace old card, tap/insert, swipe, work online) and the purpose for card replacement. Mailed cards should include information on the purpose of card replacement, highlight any new components (e.g., if it looks different, security code), and explain next steps (e.g., PINing and activating the card). These details should be included even if there have been only minor changes to the card's appearance. Ongoing household communication should provide assurance that the cards are authentic and encourage that the household utilize the chip new functions (e.g., tap/insert).

All communication efforts require a central coordination point to ensure that messaging is consistent, and that the timing of communication makes sense. Early notification is important; however, too much communication too early may overwhelm and confuse households. Communication planning should anticipate that targeted outreach and communication may be required throughout the card replacement. One example is if specific geographical areas or household groups appear to have received the new card and cards have not yet been activated.

3.7 Section Three Summary

This section provides collaborative guidance from the USDA X9 EBT Card Industry Forum on card options and replacement strategies to support States with a successful transition to SNAP EBT chip cards. The transition is driven by the need to reduce benefit theft through improved security features supported by chip contact and contactless chip technology.

While States will retain flexibility in card design and personalization—such as chip type, PAN format, and printed features—all cards will include a chip, mag stripe, and PAN, and must meet applicable ISO standards. States are encouraged to evaluate their card distribution channels and the equipment required to print and personalize chip cards to determine the best approach for EBT Chip card distribution.

A well-coordinated card replacement strategy will be required at rollout supported by a clear strategy for card activation, PIN selection, and the deactivation of legacy mag stripe cards. States are encouraged to apply lessons learned from prior initiatives, including performing case cleanup, using phased replacement approaches, monitoring card activity data, and tailoring strategies to local needs.

Communication will be a critical success factor. States should plan early, coordinated messaging across stakeholders, and provide clear, timely information to SNAP households, merchants, and local partners. Community organizations, merchants and POS partners, and case workers should play essential roles in outreach and support. Ultimately, by leveraging proven practices and maintaining consistent collaboration, States can execute a secure and efficient chip card rollout that protects benefits, supports households, and strengthens trust in the SNAP program.

Section 4: EBT Chip Card Rollout Strategy

4.1 Scope

This section provides implementation guidance and planning considerations to support the statewide rollout of SNAP EBT chip cards. It emphasizes activities related to partner coordination, retailer readiness, and effective communication to promote a smooth and secure transition.

Stakeholder perspectives reflected in this section were captured through a series of forum-led discussion sessions hosted by the X9 EBT Card Industry Forum. Two-1-hour open forum sessions and two stakeholder-specific sessions were held to further explore implementation considerations for EBT chip card rollout with as many as 155 participants. Topics covered during the sessions included:

- Preparing for Rollout
- Retailer Readiness
- Rollout Strategies
- Communication and Training

As States begin preparing for implementation, several challenges exist that could affect timing, coordination, and retailer readiness. Recognizing these challenges early can help inform planning decisions and highlight areas where additional attention or resources may be required. This section begins by acknowledging anticipated challenges to rollout planning, followed by implementation insights and guidance to support successful execution across all partners.

4.2 Anticipated Challenges

While EBT State and industry stakeholders have made significant progress in preparing for chip card rollout, several specific challenges warrant focused attention during the planning process. The challenges presented are not intended to be exhaustive but represent areas where additional coordination, communication, and mitigation strategies may be especially important. The subsections that follow this one, beginning with 4.3 Rollout Strategies, offer general rollout planning guidance as well as recommendations for preparing for the challenges outlined here.

4.2.1 Chip Card Inventory Constraints

One potential challenge to EBT chip card rollouts is the availability of chip card inventory. A shortage in supply could delay planned rollout timelines or influence the selection of a rollout strategy. To reduce the risk of unexpected supply constraints, States should work closely with their EBT vendors and card manufacturers to assess supply availability and plan replacement strategies accordingly.

4.2.2 Uncertainty Around Online Transaction Message Updates

Another potential challenge to full retailer acceptance of EBT chip cards is the delayed implementation of online transaction message updates such as CVV and expiration date. Without a clear picture of which States intend to implement EBT chip cards (and when they plan to implement) it is difficult to determine the most effective timeline for online checkout updates.

4.2.3 ECL and Technical Fallback Processing Consistency

For context, there are two primary situations where a chip card may need to fallback to a mag stripe transaction. The first is technical fallback, which occurs when the terminal cannot successfully read the chip after multiple attempts (for example, if the chip is damaged or the tap does not register). In these cases, the terminal typically allows the card to be swiped after three failed attempts, consistent with industry recommendations. The second is Empty Candidate List (ECL) fallback, which arises when the terminal does not support the Application Identifier (AID) on the chip card, meaning no match is found with the terminal's supported applications. When an ECL is encountered, the terminal should permit a mag stripe swipe. A more detailed explanation of the AID and ECL fallback behavior is provided in Section 2, which outlines how terminals recognize EBT chip cards and the corresponding processing requirements.

EBT chip card rollouts have encountered elevated ECL fallback rates where terminal configurations have not yet been updated to include the new EBT AID (A0000000044542). Because many payment terminals are not able by default to support Empty Candidate List (ECL) fallback, these transactions may fail rather than reverting to a magnetic-stripe swipe. As a result, early implementations have seen higher-than-expected rates of ECL fallback processing failures where terminals are not yet supporting fallback to a mag stripe swipe transaction. These issues are anticipated during the transition period and are expected to persist until the required EBT AID updates have been deployed to terminals across retailer environments through their acquirers, processors, and POS service providers.

Given that fallback issues are expected to occur during rollout, States should develop strategies to support merchant and cardholder awareness of fallback procedures, including what steps to take if ECL fallback is not functioning as expected in a store.

4.2.4 Testing, Communication, and Outreach Coordination

Absent a simultaneous and synchronized rollout for all states, EBT chip card rollouts are expected to encounter challenges related to testing, communication and outreach among key implementation partners, including TPPs, acquirers, POS providers, and retailers. One example is the absence of a universal or national standardized test plan and consistent approach for evaluating ECL fallback capabilities across retail environment. This makes it more difficult to ensure widespread readiness and reduce transaction friction for all parties. Without coordinated guidance, some retailers may not receive clear instructions on terminal configurations or update requirements, increasing the risk of incomplete readiness and failed fallback transactions at the point of sale. Smaller and independent retailers may be especially vulnerable.

4.2.5 State Interoperability

As States implement EBT chip card programs, coordination challenges may arise when cardholders use their cards at out-of-State retailers—particularly in border regions. Without aligned timelines or shared implementation planning across State lines, there is a risk of inconsistent card acceptance experiences for SNAP households and operational confusion for retailers. Implementing States should consider partnering with neighboring States to analyze cross-border card usage and coordinate outreach to affected retailers and cardholders. National retailers and trade associations have recommended offering multiple channels for communication and coordination, which may include FNA, the issuing State, trade associations, TPPs, and POS providers.

4.3 Rollout Strategies

4.3.1 Strategies for Card Issuance

States may choose from several approaches for EBT chip card distribution, each with distinct advantages and challenges depending on the operational capacity, fraud mitigation priorities and implementation goals. States should factor in their decision the level of retailer readiness, the size of their cardholder base, and the capacity of the State, the card vendor and the EBT host processor, among other things.

Possible approaches include:

- **Pilot to start:** Issue chip cards to a limited group of cardholders in selected locations or demographics, allowing a defined period for evaluation, and refinement of distribution plans, communication materials and methods before full-scale implementation. This approach would be followed by one of the following approaches:
- **Phased:** Distribute chip cards gradually over a planned period (e.g., 6 to 12 months) to manage workload, monitor progress, and adjust based on real-time feedback.
- **Mass replacement:** Replace all eligible cards in a condensed timeframe (e.g., 6 to 12 weeks) to quickly shift the full cardholder base to chip cards. When selecting this approach, States should consider the capacity of State staff, card vendors, EBT host processors, and retailer readiness.

Starting with a pilot and then proceeding with a phased approach offers more controlled implementation, reduces pressure on support resources such as EBT call centers, and allows early identification and resolution of operational or technical issues. Actively monitoring rollout progress along with frequent status updates and reporting from EBT Host Processors and call centers is key to maximizing the benefit of the chosen strategy.

Another consideration in card rollout decisions includes the level of publicity about card replacement and the potential for mail fraud that it raises, which increases with longer replacement timeframes. These may be mitigated by requiring additional data verification (e.g., DOB, SSN) from EBT cardholders when activating their new cards. Requesting information at the time of activation that wasn't mentioned in the card distribution envelop is another fraud mitigation approach to consider.

Regardless of the approach chosen, States are advised to avoid launching card replacements during busy times of the year, such as the winter holiday season, when operational burdens for all stakeholders are typically higher.

4.3.2 Strategies Supporting Retailer Readiness

Understanding the state of retailer readiness and maintaining active collaboration with retailers and industry partners is essential to a successful chip card rollout. States should ensure that retailers have the guidance, tools, and support needed to test and validate system readiness, with a particular focus on Empty Candidate List (ECL) fallback. In addition, retailers that are not affiliated with trade associations require additional communication outreach strategies, as these businesses may be harder to reach through conventional industry channels.

Recommended Strategies to Support Retailer Readiness:

- Gather comprehensive data on retailer readiness in your State through proactive outreach and collaboration with partners.
- Provide clear guidance and tools such as test scripts and cards to support retailer testing for ECL fallback and EBT Chip card readiness.
- Work with industry partners to facilitate retailer testing and tracking ECL fallback coverage leveraging available test scripts and test cards.
- Address communication gaps among small or unaffiliated retailers, who may not be connected to trade, through:

    - Industry events
    - Multilingual industry notices
    - Repetitive messaging through multiple communication channels, including POS service providers and acquirers

Additional General Rollout Planning Recommendations

Additional recommendations to further enhance market readiness and mitigate risks include:

- Establish a rollout team involving all key stakeholders such as community partners, the EBT Host Processor, TPPs, and retailers with clearly define roles and responsibilities for each team member/group. This collaborative approach can help mitigate risks by promoting streamlined communication and support for all stakeholders.
- Educate retail staff on step-by-step instructions for chip transactions, testing opportunities, and other training materials that clarify key procedures, including manual entry processes for transactions and use of vouchers.
- Prepare an FAQ for stakeholders (retailers, acquirers, gateways) to address anticipated questions and reduce confusion, including that there is no liability shift with the switch to EBT Chip, how to handle manual entry fallback, etc.
- Deploy a team of trained testers with funded EBT Chip cards to test at a variety of locations.

4.3.3 Preparing for Rollout

Successful rollout will require coordination and collaboration among multiple stakeholders. The following chart outlines key entities and their corresponding tasks to support EBT chip card implementation.

EBT Chip Card Rollout – Key Entities & Tasks

Entity	Tasks / Responsibilities
FNA	• Initiated whitepapers for EBT chip card implementation guidance. • Established and maintains a website for resource and information sharing. • Developed core test scripts for ECL and Retailer Chip Readiness assessments. • Support streamlined communication.
State Agency	• Printers and pinning equipment replacement. • Staff readiness and communication. • Perform UAT. • Confirm interoperability. • Card replacement strategy. • Chip card production. • Communication to cardholders, community partners, and retailers.
EBT Processor	• Perform coding updates. • Perform system testing. • Support UAT. • Share test scripts (to certify acquirers). • Support card printing. • Support FNA end-to-end assessment.
SNAP Retailer	• Complete equipment upgrades. • Perform system updates. • Support end-to-end testing. • Ensure staff readiness. • Provide communication to customers.
POS Acquirer	• Perform coding updates. • Support UAT. • Support certification.
Network / TPP	• Perform system updates. • Perform UAT. • Share test scripts for retailer certification. • Participate in certification. • Support FNA end-to-end assessment.

Figure 3: Rollout Task Table

4.3.4 Priorities

In preparation for rollout, a set of shared priorities has been identified that will require continued coordination, targeted communication, and structured monitoring. They are not presented in order of importance but rather as distinct areas requiring attention to help ensure rollout activities stay on track and reach all intended audiences, including retailers and cardholders.

Priority Area: Ongoing and Coordinated Communication

Ongoing and coordinated communication is essential for a successful rollout. It will be critical for all stakeholders to remain in contact throughout the initial rollout and share key information related to implementation timelines, readiness, challenges, feedback from cardholders and retailers, and risk mitigation recommendations. This may require developing lines of communication that have not existed before in EBT or other payment projects. National, State and local trade associations can be leveraged as effective partners to disseminate updates through newsletters, email blasts, and industry events. Distribution of notices with clear updates, instructions and guidance can be an effective approach to streamline messages and support consistent understanding across stakeholders.

Priority Area: Focused Outreach

Focused outreach with emphasis on identifying stakeholder groups that require targeted communication to support adoption is also critical. This project brings together groups that have various governing bodies, competing projects and initiatives, and diverse resources. Each stakeholder group should identify which parties may require targeted or concentrated communication to support adoption of this new payment method. Focused outreach also applies to States' communication with cardholders, including development of clear messages across all demographics, particularly those that may be more vulnerable or with limited access, ability, or English proficiency.

Priority Area: Confirming Geographic Coverage

Confirming geographic coverage is a priority to assure chip readiness and transaction volumes in vulnerable urban and rural communities identified as food deserts. Assessment efforts should include reviewing purchasing trends, gathering supporting data for comparative purposes, and conducting in-person visits. States should work with FNA, EBT vendors, TPPs, and the retailer community to map and monitor coverage across their jurisdictions and border States with special focus on food deserts.

Priority Area: Retailer Direct Line of Communication

Ensuring the retail community has a direct line of communication to the rollout project to report their readiness. In coordination with FNA, each State should establish a clear point of contact for retailers, acquirers, and other relevant partners to report testing status, raise implementation concerns, and coordinate timing. Two primary areas of focus for readiness should be (1) general EBT chip card acceptance and (2) ECL fallback processing. Readiness is defined as the point at which the solution has been tested and confirmed with the relevant parties (e.g., retailer, acquirer, POS provider, TPP, financial institution, State).

4.4 Section Four Summary

A successful rollout of EBT chip cards depends on early recognition of challenges, clear prioritization of resources, and strong coordination among all partners. USDA EBT Industry Forum members emphasize ongoing, multi-channel communication; proactive testing and certification (with particular attention to ECL fallback); and structured outreach to smaller or unaffiliated retailers to ensure they receive timely guidance and support.

Implementation strategies--whether starting a pilot and then to phased, or mass replacement—should align with State capacity, retailer readiness, and fraud-mitigation priorities, while preserving flexibility to adjust as conditions evolve. Maintaining practical tools such as retailer self-reporting for

readiness shared test scripts and funded test cards and monitoring geographic coverage (including food deserts and border areas) helps partners track progress and address gaps quickly.

Given staggered, State-led timelines and differing strategies, this guidance is intended to promote consistency across jurisdictions—reducing variability in acceptance outcomes and supporting more predictable experiences for cardholders and retailers. The guidance provided in this section includes valuable insights gained from States and FNA, informing refinements to card design, replacement sequencing, communications cadence, and readiness verification. Collectively, applying these practices positions stakeholders to deliver a more secure, consistent, and user-centered transition to EBT chip cards, while preserving the flexibility needed to adapt to local conditions.

Appendix 1

X9 EBT Industry Forum – EBT Chip Glossary

TERM	DEFINITION
ASC X9, INC. (ACCREDITED STANDARDS COMMITTEE)	A U.S. standards organization responsible for developing and maintaining financial industry standards for payments, cards, securities, and related data security. ASC X9 publishes technical standards such as ANSI X9.58 for EBT transaction messaging and ANSI X9.150 for QR code payment data, which support interoperability and security across financial systems.
X9.58 SNAP EBT TRANSACTION STANDARD	The transaction standard that specifies the transaction message structure the data elements and values that EBT stakeholders must utilize to conduct and pass SNAP transactions for approval or denial.
ACQUIRER	A financial institution (or the agent of a financial institution) that facilitates the authorization of SNAP transactions by acquiring transaction-related data from SNAP-authorized retailers and transmitting that data to a Third-Party Processor for further routing. An acquirer may only need to contract with a single TPP, as the TPP would handle subsequent routing to gateways and EBT host processors.
ADMINISTRATIVE TERMINAL	A branch of the EBT Host Processor system that allows State SNAP agency access to monitor SNAP benefit issuance and payment transaction activity.
AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)	The accrediting body for U.S. technical standards, including financial-services standards developed by ASC X9, which govern payment data, security, and interoperability.
APPLICATION IDENTIFIER [AID]	An EMV Tag personalized into the EBT card chip which communicates to the POS terminal the type of card being used and the application on the chip. The AID is composed of two parts, the registered application provider identifier (RID) and the proprietary application identifier extension (PIX).

TERM	DEFINITION
APPLICATION INTERCHANGE PROFILE (AIP)	The Application Interchange Profile (AIP) indicates the EMV features that the card supports such as offline Dynamic Data Authentication or online processing. For EBT chip processing it will indicate "online processing."
APPLICATION USAGE CONTROL (AUC)	The Application Usage Control (AUC) specifies how the card can be used (e.g. "domestic only" for EBT).
ASYMMETRIC KEYS	Public-key cryptography uses a mathematically linked pair of public and private keys for encryption and decryption. Within the context of EMV, it enables offline card authentication functionality. EBT cards will not use any Offline authentication technology.
AUTOMATED CLEARING HOUSE [ACH]	The primary system that agencies use for electronic funds transfer (EFT). With ACH, funds are electronically deposited in financial institutions, and payments are made online.
AUTOMATED STANDARD APPLICATION FOR PAYMENTS [ASAP]	The US Treasury system that manages the letters of credit used to fund State agency administrative costs and SNAP benefits redeemed by retailers and allows State agencies and their contracted EBT processors to draw down funds to cover the allowable share of those expenses.
CARD AUTHENTICATION VALUE [CAV]	A number embedded in the magnetic stripe and/or chip of an EBT card that authenticates the validity of the card during a transaction.
CARDHOLDER PORTAL	A branch of the EBT Host Processor system that allows SNAP clients access to monitor their benefits and payment transaction activity.
CARD SECURITY CODE [CSC]	A 3–4 digit security code printed on payment cards and used for card-not-present transaction verification.
CARD VERIFICATION METHOD (CVM)	Card Verification Method informs the POS terminal what type of verification should be performed; for EBT chip cards this will be set to "online PIN," which informs the terminal to prompt for a PIN and to send that PIN online for verification

TERM	DEFINITION
CERTIFICATION/CERTIFICATION TESTING	Certification testing refers to the process of validating that a payment product (e.g., card, terminal, software) complies with specified transaction specifications. **Third-Party Processor Certification**: Tests transaction messaging and requirements (X9.58 Standard). **Card Network Certification** · **Level 1**: Tests physical and electrical characteristics of the card/terminal. · **Level 2**: Tests the software and application logic. · **Level 3**: Tests brand-specific transaction flows and requirements (e.g., Mastercard-specific rules).
CONTACT-ONLY CHIP	A contact-only chip supports in-store chip card payments that require physical contact with the acceptance terminal. Consumers insert or dip their chip card into a reader to complete the transaction.
CRYPTOGRAM	A cryptogram is a dynamically generated, encrypted code used in EMV transactions to authenticate the card and protect against fraud. For online EMV transactions, an Authorization Request Cryptogram (ARQC) is generated and sent to the Issuer Processor for authentication. A Transaction Certificate (TC) cryptogram is also created by the chip after the issuer processor approves the transaction to confirm that the transaction was authorized and completed according to EMV rules.
DUAL INTERFACE CHIP	A dual interface chip card supports both contact and contactless (tap) transactions. Supports in-store payments with contactless chip cards and Near-Field Communication (NFC) enabled mobile devices that do not require physical contact with the acceptance terminal. Consumers wave or tap their device on the terminal to complete the transaction.
ECOMMERCE PROVIDER	An organization or platform that enables businesses to sell goods or services online by offering tools and infrastructure for digital transactions, product display, customer interaction, and order fulfillment.
ELECTRONIC BENEFITS TRANSFER [EBT]	The electronic transfer of government benefit funds to individuals using payment card technology, ATMs, and POS terminals.

TERM	DEFINITION
EBT-ONLY POS TERMINAL	A POS device that accepts only EBT cards and not debit or credit cards. This type of equipment is provided free of charge to eligible ('exempt') SNAP retailers by the State Agency or their contracted EBT processor.
EBT HOST PROCESSOR	EBT host processors: A contractor that builds and operates SNAP EBT systems on behalf of States. This includes, but is not limited to: initial creation, maintenance, upgrading of EBT systems; processing EBT transactions, managing individual SNAP benefit accounts; reporting and data management, enabling and disabling retailers; end-of-day processing, settlement, reconciliation, and (in some cases) providing Point-of-Sale (POS) devices to SNAP-authorized retailers; certification of Third-Party Processors.
EMPTY CANDIDATE LIST (ECL) FALLBACK	Fallback that occurs when a chip card is inserted or tapped, but the terminal cannot find a matching AID (application identifier) on the card that can be processed by the terminal. This results in the terminal prompting the user to swipe the card instead, reverting to magnetic stripe processing.
EMV/EMVCO	Europay, Mastercard, and Visa. EMVCo maintains the global specifications that define how EMV chip technology functions across hardware and software components. These specifications serve as the foundation for secure, interoperable chip-based transactions. Global card networks build on these specifications to create their own implementation and certification requirements for both the physical chip and associated software application.
FNA	Food and Nutrition Administration of the United States Department of Agriculture (USDA). FNA oversees SNAP and EBT at the federal level.
GATEWAY	A payment gateway may provide a range of capabilities; In EBT it refers to an entity providing access to the host (card issuer) for transaction authorization.
INTERACTIVE VOICE RESPONSE [IVR] SYSTEM	A dial-in inquiry system. Use of the system requires a touch-tone or digital phone. All existing EBT systems are supported by an IVR system.
INTERNATIONAL ORGANIZATION FOR STANDARDIZATION [ISO]: SPECIFICATION 7813	Specifies the data structure and data content of tracks 1 and 2 on the magnetic stripe, which are used to initiate financial transactions. It references layout, recording techniques, numbering systems, registration procedures, but not security requirements.

TERM	DEFINITION
INTEROPERABILITY	A regulatory requirement to ensure that recipients can use their SNAP EBT cards to spend benefits across State borders.
ISSUER/BANK IDENTIFICATION NUMBER [IIN/BIN]	A number assigned by the American Bankers Association that identifies a card issuer for the purpose of routing transactions. State SNAP EBT agencies each have a unique BIN of six digits at the start of EBT card numbers.
ISSUANCE POLICY AND INNOVATION BRANCH (IPID)	FNA Division leading SNAP federal oversight and technical assistance for national EBT chip card implementation
KERNEL	The software component within a payment terminal that manages the interaction between an EMV chip card and the terminal during a transaction. Kernels implement the payment brand–specific rules that define how chip data is read, validated, and processed. Most terminals contain **multiple kernels**—one for **contact (dip)** transactions and separate kernels for **contactless (tap)** transactions. Each payment brand (e.g., Mastercard, Visa, American Express) maintains its own kernel specifications, which must be implemented and certified for use in terminals. For SNAP EBT, contact transactions rely on the **Mastercard M/Chip application**, and contactless implementations (where supported) use the **Mastercard C-2 contactless kernel**.
PERSONAL IDENTIFICATION NUMBER [PIN]	A numeric code issued to or selected by a cardholder, which must be utilized by the cardholder in conjunction with an EBT card to initiate a transaction.
PRIMARY ACCOUNT NUMBER [PAN]	A 16-19 digit number printed and encoded on EBT cards that identifies the cardholder EBT account as well as the issuer of the card.
POINT-OF-SALE [POS] TERMINAL	An electronic hardware device used by SNAP retailers to conduct sales and provide balance inquiries using payment cards, including EBT cards.
POS TERMINAL PROVIDER (OR POS SERVICE PROVIDER)	A financial institution (or its agent) that provides retailers with the equipment and technology needed to process SNAP benefits.

TERM	DEFINITION
PUBLIC KEY INFRASTRUCTURE (PKI)	A framework of policies, technologies, and procedures used to create, manage, distribute, and revoke digital certificates and public–private key pairs. In EMV chip payments, PKI is used to support offline data authentication. Because SNAP EBT chip cards will rely solely on online authorization, PKI-based offline authentication is not required.
SERVICE CODE	A value embedded in the EBT card magnetic strip that communicates transaction instructions for the card (e.g., transaction requires PIN).
SKIMMING	A type of payment fraud that occurs through devices that are illegally installed on ATMs, point-of-sale (POS) terminals, or fuel pumps which capture card data and/or cardholders' PINs.
SUPPLEMENTAL NUTRITION ASSISTANCE PROGRAM [SNAP]	Federally funded and State administered program that provides food benefits to low-income families to supplement their grocery budget so they can afford the nutritious food essential to health and well-being.
SNAP RETAILER	A retailer authorized by USDA/FNA to accept SNAP payment for eligible food items.
SYMMETRIC KEYS	Cryptographic keys used in symmetric algorithms, where the same key is used by both parties to generate and verify protected data. In EMV systems that rely solely on online authorization—such as SNAP EBT—symmetric keys are used to generate and validate the EMV transaction cryptogram, ensuring the authenticity and integrity of each transaction.
TECHNICAL FALLBACK	Fallback that occurs when a chip card is inserted into a chip-capable terminal, but the chip cannot be read due to a technical issue, such as a damaged chip, dirty contacts, or malfunctioning terminal reader. After a configured number of attempts, the terminal will prompt the user to try another payment method or type.
TERMINAL ACTION CODE (TAC)	Sets of EMV processing rules associated with a specific Application Identifier (AID) that instruct the payment terminal how to respond to defined risk conditions during a chip transaction. TACs determine when the terminal should request online authorization and define terminal-side behaviors consistent with the processing requirements of the supported application, such as the SNAP EBT AID.

TERM	DEFINITION
THIRD PARTY PROCESSOR (TPP)	Financial institution that receives EBT transactions from SNAP-authorized retailers and acquirers and subsequently transmits those transactions to an EBT gateway for further routing or directly to an EBT host processor for transaction approval.
VAULT CARDS	EBT vault cards are pre-printed with card numbers and held in reserve by States for disaster (e.g., DSNAP), emergency, and other special-use situations.

Appendix 2

EBT Chip Card Implementation Resources

FNA SNAP EBT Modernization webpage:

https://www.fns.usda.gov/snap/ebt/modernization

FNA SNAP EBT Chip Card Technical Resources:

https://www.fns.usda.gov/snap/ebt/modernization/chip-resources

FNA Retailer Instructions for SNAP EBT Chip Card Transactions at POS

https://www.fns.usda.gov/snap/ebt/modernization/retailer-notice/chipcard-transaction-pos

ANSI X9.58 EBT Transaction Specification

https://webstore.ansi.org/search/find?in=1&st=x9.58

SEMTAC EBT Chip webpage

https://www.nationalgrocers.org/semtac/ebt-chip-cards/how-to-prepare/

SEMTAC Get Support form & contact information

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