

BUILDING AN AGILE RFID SYSTEM: A FUTURE-FORWARD APPROACH FOR HEALTH SYSTEM PHARMACY





EXECUTIVE SUMMARY

Health-system pharmacies face ongoing demands to enhance medication use while complying with evolving laws and regulations and reinforcing safety and quality in systems—all while managing rising expenses. Meeting these demands requires technological progress to improve resource management and reinforce operational efficiency while ensuring safety. Radio-frequency identification technology (RFID) can help in each of these areas, but the current adoption in health-system pharmacy often falls short of its potential. “Existing implementations often operate in silos, lacking comprehensive integration, which can lead to a struggle with scalability.”

The ASHP Foundation convened a group of early adopters to explore current and emerging uses of RFID technology in medication-use systems, share insights, and develop white papers outlining key considerations and implementation strategies. Additional details about the project and participants can be found in Appendix A.

Project participants stressed the importance of adaptable infrastructure and integration patterns that can evolve as use cases scale.¹⁻² This white paper lays out a vision of an agile RFID system, where workflow design and automation strategy are not separate from technology selection—they are the mechanism by which the system remains scalable as new use cases are added. The work provides a forward-looking roadmap to assist health systems in conceptualizing, planning, and implementing agile RFID systems using practical guidance to evaluate, select, and optimize the most agile option for the environment.

For organizations that have already implemented RFID for a single use case, it provides considerations for addressing upcoming regulatory changes, expanding, redesigning, or even transitioning to new vendors. Use case examples beyond code carts are included to demonstrate more advanced current uses. For those entering the RFID space, it provides direction for building a flexible, future-ready system from the outset.



FUTURE STATE OF RFID IN MEDICATION USE SYSTEMS

For the past decade, RFID in pharmacy has been purchased largely to solve a specific, isolated problem: replenishing trays and emergency kits faster. As the market matures, the definition of success is changing, and the potential opportunities are expanding.

Project participants describe “agility” as the ability to add new sites, service lines, and RFID-enabled devices without rebuilding the solution or the underlying infrastructure each time. Current RFID models are often described as fragmented and vendor-dependent, with data siloed across RFID platforms, electronic health records (EHRs), automated dispensing cabinets (ADCs), and inventory systems.

An agile RFID system is the end goal, and for the purposes of this white paper, is defined as a *flexible and connected collection of RFID enabled solutions and supporting workflows to address medication use barriers*. In an agile RFID system, workflow design and automation strategy are not separate from technology selection—they are the

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mechanism by which the system remains scalable as new use cases are added.

The future state of RFID is not just about a faster scan; it is about creating additional storage space in the hospital’s enterprise pharmacy inventory management system (PIMS) that provides meaningful data. Additionally, the future state of RFID moves beyond inventory control into direct patient care workflows, including documentation of administration or waste and regulatory compliance, by providing end-to-end track-and-trace capabilities. Participants’ future RFID areas and innovations are highlighted throughout this work, along with the key facilitators needed to pursue an agile system. The paper concludes with a checklist with practical tips for users.

Readers are encouraged to consult the Code Cart white paper and earlier Foundation [research and resources](#) for more on getting started, evaluation, implementation, and optimization strategies.

High-value use cases for RFID expansion. Having expansion opportunities in mind is critical when considering your deployment strategies—readers will want to define success up front and to have high-value activities in mind as they plan to scale use of this technology. Several cases consistently came up in discussions with participants as different parts of an agile RFID system, and are highlighted in boxes.

Anesthesia workflows and perioperative documentation were of near-term importance to participants due to the complex medication needs and the potential for incomplete documentation in this area. Desired capabilities included RFID-supported point-of-administration documentation, automated waste/return capture, and tighter integration with anesthesia information systems.



Controlled substances and diversion prevention were the strongest use cases. Participants voiced a need for RFID solutions to RFID-enabled ADC drawers/bins, patient-specific controlled substance tracking, and tamper-evident tags to strengthen the chain of custody and improve reconciliation. RFID technology could provide organizations with a solution to move the diversion investigation

process from a time-consuming, retrospective, manual review to evolved systems that can detect problems with chain-of-custody and dispense-to-utilization mismatches supporting better tracking of responsible parties.

High-cost inventory control. Participants identified real-time visibility and tracking of high-cost infused biologics and specialty medications specifically because effectively managing this inventory offers the highest potential ROI for RFID use. The deployment of RFID technology in refrigerators and clinic periodic automatic replenishment (PAR) management systems leads to enhanced site-to-site inventory distribution in cases where patients cancel appointments or where inventory can be thoughtfully used to reduce waste.

Sterile compounding and preparation. Participants identified three main advantages of RFID technology in sterile compounding: 1) automated lot/expiration tracking during compounding operations, 2) decreased need for manual transcription, and 3) real-time ingredient validation for “smart” IV workflow systems. Broader evidence on hospital pharmacy automation supports that technology-enabled traceability and automation can reduce low-value manual work and improve operational reliability, but outcomes depend on implementation quality and system integration.⁴ “I would really like to see it within our sterile compounding space...it would be really nice if all the vials and everything were RFID-enabled” (Participant comment).

Additional future-state applications. Other use cases included more prevalent RFID-enabled patient delivery solutions (medication delivery robots, pneumatic tube systems), using RFID to track patient-owned medications (both in the facility and through hospital-at-home programs), and broader “RFID anywhere” scanning through mobile handhelds or portable cabinets/carts. This list is not exhaustive, and one of the benefits of RFID use is its flexibility.

THE BUSINESS CASE FOR RFID AGILITY

Starting with the future in mind and keeping all decisions aligned with that thought process can save time reworking systems, decrease costs by breaking down revenue silos, and leverage workflow efficiencies. The long-term goals will determine the current scope and scalability of RFID adoption, implementation, and optimization.

REGULATORY READINESS

Being regulatory-ready is considered a benefit of RFID implementation in code cart management. Participants viewed Drug Supply Chain Security Act (DSCSA)-aligned traceability as a strategic advantage, as RFID can reduce manual labor while enabling better tracking of unit-of-sale products. DSCSA alignment alone will not drive scale unless data exchange and workflow integration convert RFID reads into actionable workflow events (receipt, out away/store, movement, pick, dispense, administer, waste, return, expire, recall) across the medication-use system.^{2,3} Recent pilots have shown that RFID is an appropriate technology to ensure traceability throughout the supply chain, and the authors expect this use case to continue to expand.

USING DATA TO DRIVE DECISIONS

Counting inventory is useful, but the largest safety and financial value comes from capturing usable workflow events. In an agile RFID system, the shift is from counting items to using RFID-derived data to enhance patient safety and drive business decisions. Leadership support depends on measurable outcomes. Predefining key performance indicators (KPIs) for safety (recall response time, lot capture), efficiency (labor hours saved), stewardship (expired inventory), and regulatory compliance will be important in supporting cases for ROI. Organizations may also decide at this stage what KPI threshold triggers expansion or redesign.

The value of RFID technology grows when data informs PAR levels, kit contents, and replenishment, rather than narrow-scope workflows, as described in the Code Cart White Paper. Participants recommended identifying a few measurable use cases and the shared capabilities/requirements for each (e.g., tagging, readers, integrations); design a simple pre/post evaluation; and align reporting expectations early to communicate value.

TRACEABILITY



Pallet



Carton



Individual Unit

CROSS-FUNCTIONAL OWNERSHIP AND BUDGET ALIGNMENT

Budget silos were repeatedly noted as a barrier, especially when the primary benefits accrue to multiple departments while the costs are concentrated in a single budget. Participants should remember that, like most technology-based workflows, RFID is successfully scaled when stakeholders' needs are met with minimal friction.



Challenge: Budget silos but shared benefits

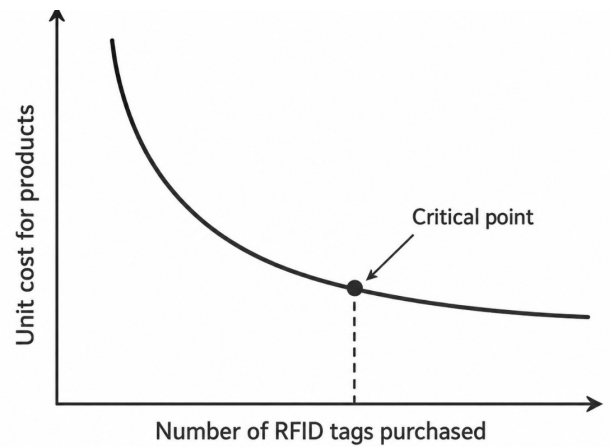
An agile RFID system depends on cross-functional ownership because the value, data, and infrastructure spans multiple departments, even when pharmacy is the initial sponsor. Participants consistently described the future state as an enterprise capability: a shared foundation (tag standards, reader coverage, integration patterns, and reporting) that supports multiple departments and workflows. Scaling RFID requires explicit governance to resolve ownership of infrastructure, data management and maintenance, and direct patient care workflow integration.

CONSIDER PLANNING FOR SHARED INFRASTRUCTURE WITH RTLS



RFID = what
RTLS = where

Several participants emphasized that RFID and real-time location systems (RTLS) should be evaluated as complementary layers: RFID identifies **what** is in a kit/cart/bin, while RTLS helps identify **where** the kit/cart is located, and how it moves through the facility. If your organization already has RTLS (or is considering it), plan early for shared network and location modeling, and consider partnering with a second department (e.g. perioperative services, materials management, biomed/clinical engineering, or labs) to co-fund infrastructure and accelerate enterprise adoption.



TAGGING OPTIONS

Participants repeatedly described upstream tagging (manufacturer or wholesaler) as the most scalable long-term strategy to reduce internal manual labor costs and improve data quality. The upstream strategy can also improve long-term economics by enabling higher-volume, standardized supply models. However, teams should evaluate the total cost of ownership based on their specific use cases (i.e. tag volume, reader coverage, staffing time, and ability to redeploy labor) rather than assuming the tag unit cost alone will determine ROI. There is a point for each operation at which using pre-tagged products offers greater benefit than tagging products inhouse, due to economies of scale. A focus group participant expressed that in their organization, "...RFID is more likely to be considered as prices go down, and we can demonstrate an improved ability to manage our inventory (thus finances) and regulatory considerations (DSCSA, recalls).

HEALTH SYSTEM LEVEL AUTOMATION OF TAGGING

Hospital-level automation options for tag application/encoding are entering the market and evolving alongside RFID technology. High-volume areas (application programming interface (API)-driven lookup, robotics, or semi-automation) may be the most likely insertion points for automated tagging. One participant described how their organization implemented a process that eliminates manual data entry, reducing tagging time to just 6-7 seconds per item by using API lookups and RFID label printing technology.

AGILITY PLAYBOOK

The next sections translate the core features of an agile RFID system into practical decisions and actionable steps, followed by a checklist of key considerations for planning and implementation.

DEFINE EVENT MODELS

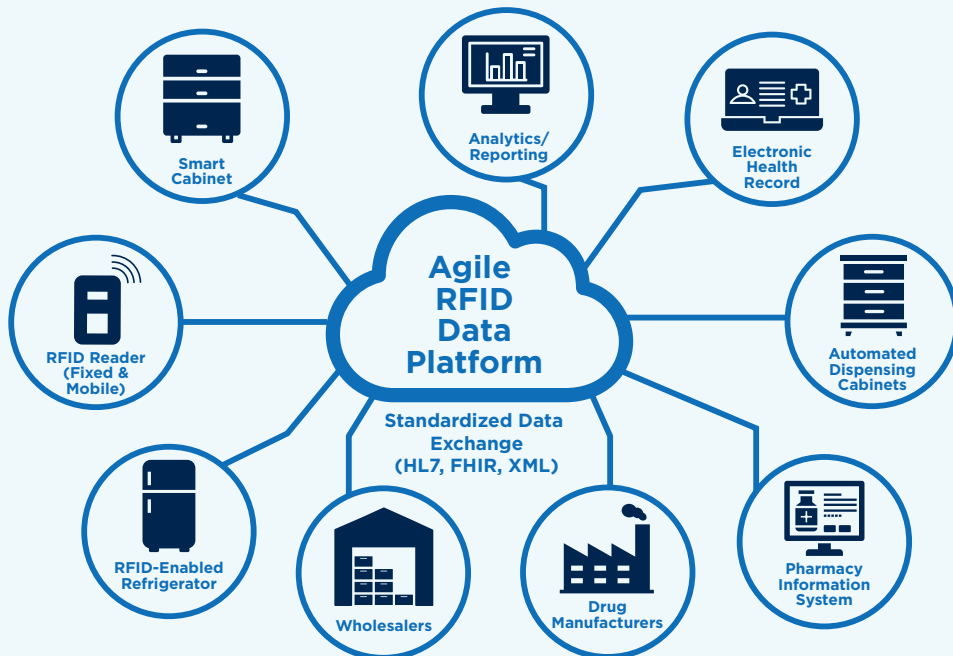
Develop a clear strategy for unified inventory visibility across RFID, inventory systems, automation, and the EHR. Many organizations benefit from using standards-based event capture (for example, electronic product code information services (EPCIS)-style event structures) and translating those events into transactions for inventory and documentation workflow. Teams should define a standard event model early (receive, put-away, move, pick, dispense, administer, waste, return, expire, recall) and decide how each event will update the system of record in workflows that leverage RFID. Decide which system is the source of truth and map how reads become standardized events, and confirm that downstream systems can consume those events (EHR, inventory software, 340B accumulator, etc.)

INTEROPERABILITY

Interoperability is the foundation for scaling RFID beyond single-purpose deployments. Participants described programs stalling when tags and readers work only within a single vendor ecosystem, or when RFID-derived workflow events cannot be consumed by the EHR, ADC, or inventory management system. Common friction points include mixed-tag environments with inconsistent read performance and limited lot/expiration capture within downstream automation.^{1,2,5} When evaluating solutions, confirm how data will move between systems and how tag-read events will be translated into actionable transactions. As one participant summarized, “If interoperability between tags doesn’t exist, every idea we talked about becomes impossible.”

Interoperability is a core procurement criterion for RFID-related technologies and vendors. Ideally, tag compatibility and data portability would be contract requirements in RFQ/RFP documentation, and vendors would be expected to demonstrate mixed-tag performance.

INTEROPERABLE RFID ECOSYSTEM



STANDARDIZATION OF TAG CONTENTS

Standardization should address both what is encoded (product identifier, lot, expiration, and serial, where applicable) and operational requirements for tag placement and verification. During vendor selection, leaders should develop clear documentation and expectation of tagging workflows and standards.

Understanding a vendor's tag compatibility should be discussed before reaching the contracting phase. Ideally, contracts include specific details about the organization's expectations regarding compatibility with industry-standard tags and do not lock the organization into proprietary tags. Proprietary tags increase costs and make switching vendors or expanding to new devices expensive due to re-tagging. Ideally, tag readers support multiple tag vendors, and organizations retain ownership of encoded data where possible. When evaluating vendors, RFPs should include the RFID system's documented tag encoding standards and reader settings.

ENDING THE DATA SILO

RFID only scales when tag reads can be reconciled to a single operating model for inventory and become usable events in downstream systems. A mature design treats RFID as an event generator that feeds the medication-use system (inventory, automation, and EHR), rather than as a standalone counting tool. Today, RFID inventory in the pharmacy, crash carts, and emergency kits often functions as a "data silo." The RFID software knows exactly what is inside the tagged inventory, and if you have RTLS integration inside each cart, but Pharmacy Inventory Management System (PIMS) does not. This invisibility makes it impossible to have a holistic view of your enterprise inventory and creates major challenges in managing national shortages effectively, as you cannot see total stock on hand.

To eliminate these silos, strategic planning and vendor roadmaps must include a plan to treat RFID inventory like any other storage location, such as a vault or carousel. When

reviewing inventory reports, pharmacy leaders should have visibility into both central stock and stock decentralized in deployed locations simultaneously. Consequently, vendor selection should include whether there is a roadmap for their system to be capable of demonstrating bi-directional data exchange with the PIMS.

The need to end data silos was a heavily echoed sentiment. As discussed by multiple panel members, future success depends on treating RFID inventory like any other storage location. One participant noted, "We look forward to the day when the RFID inventory is just another inventory area in our system." Another participant expanded on this, stating, "We have data silos and interoperability/integration is the only way to solve for it...[It] allows for better data-driven decision making with all the information on one system, rather than having to run data from multiple systems to make a decision."

THE "TAG-AGNOSTIC" REQUIREMENT

Historically, many RFID vendors operated on a proprietary model. A solution purchased from Vendor A effectively locked customers into using their specific tags.

The Problem: This proprietary approach significantly limits purchasing options. As pharmaceutical manufacturers increasingly release products with pre-applied RFID tags, a proprietary system forces buyers to ignore those pre-tagged items. Instead of buying a ready-to-scan product, health systems are forced to buy the generic version and apply the tag, adding labor back into an automated process.

Avoiding tag lock-in was a primary driver in their decision-making process (Participant, Annotated).

One participant noted that they changed their initial vendor selection after recognizing that the proposed tag technology would restrict future flexibility and effectively lock them into proprietary systems. In contrast, a standards-based solution would support scalability and enable expansion.

To ensure future flexibility, the vendor selection process must explicitly address tag reader



interoperability. Pharmacy leaders should ask vendors directly if there are any third-party or manufacturer tags that their hardware cannot read today. If limitations exist, request a specific roadmap and timeline for becoming “tag agnostic,” ensuring the vendor is actively moving to allow for universal reading capabilities.

AVAILABILITY OF PRE-TAGGED ITEMS

Pre-tagged availability varies by channel and product; teams should build a simple intake check (e.g., verify pre-tag status upon receipt) to avoid double-tagging and damaged labels.^{1,2} When expanding, leaders should explicitly define where products will be tagged (i.e., in a third-party service or in the pharmacy enterprise consolidated service center) and how staff will confirm tag presence and integrity at receipt to avoid inventory challenges, such as distributing tagged inventory to inappropriate workflows.^{1,2}

Manual tagging limits scale and introduces placement and encoding errors. One focus group member shared, “We bought a pre-tagged

paralytic and didn’t know it—we double tagged it, and it fried both tags.” As more products become available pre-tagged from manufacturers or wholesalers, the need for purchasers to recognize these products when placing orders or receiving inventory increases. There is currently no curated database for searching pre-tagged items, so the burden of identifying RFID-enabled products falls to the buyers. Health systems should determine whether the purchasing protocol prioritizes the purchase of pre-tagged items and, if so, build a process to identify pre-tagged National Drug Codes (NDCs), verify tag presence and integrity at receipt, and create a contingency plan when pre-tagged supply is inconsistent.

Automated tagging technologies are evolving rapidly, making these players more mainstream than before. Considerations for this technology include assessment of tagging volume and labor hotspots; evaluation of the feasibility of semi-automated stations, integration opportunities with repackaging workflows, and API-driven data lookups for encoding. Ultimately, the decision must also include validation that automation can support the organization’s tag and label formats.

TECHNOLOGY INFRASTRUCTURE AND EXPANSION BEYOND RFID

Duplicative infrastructure increases cost and slows expansion. Network planning leverages existing infrastructure (Wi-Fi/BLE/RTLS backbone), where possible, to reduce redundant installation. Coordinate with IT and departments using Wi-Fi, BLE, or RTLS; determine what can be shared (power, network drops, reporting pathways); and confirm cybersecurity and support models for deployed readers and handhelds.

Evaluate existing RTLS investments; identify partners and define which data identifiers and events must link between RFID and RTLS platforms. Define how carts/trays are uniquely identified; validate that RFID reads can be associated with that ID; and confirm reporting supports both where and what. Run mock recalls; confirm RTLS reporting and RFID content tracing are accurate; and document roles, escalation paths, and downtime procedures.

PLANNING FOR SWITCHING VENDORS

Exit strategies or switching plans may not be priorities when executing an initial contract, but consideration of this is important in a rapidly evolving area such as RFID. Such a plan should be documented (contract dependencies, data portability, tag strategy, and transition approach) to reduce lock-in risk. Teams often discover lock-in only after they try to expand or add a second use case. It is recommended to define what would trigger a switch and/or terminate a contract, inventory contract dependencies, and document how tag strategy, data exports, and phased cutover would be handled as part of a contracting decision and ongoing technology strategy.

RFID agreements may be bundled with other technology, supplies, tags, or service terms that create hidden switching costs. Inventory dependencies (e.g., software licenses, middleware, handhelds/readers, printers, tags/consumables, professional services, maintenance, and linked automation contracts), identify renewal dates and termination fees, and confirm what happens to installed assets and data at exit.



Switching may be justified if it unlocks multiple high-ROI workflows and reduces long-term lock-in. Model total cost (termination fees, replacement hardware, implementation services, tags/labels, and staffing), include the value of planned expansions, and align timing to contract renewal windows and major operational changes.

FINDING A PATH FORWARD IN SWITCHING

Determine the best tag-encoding approach for the organization (EPC structure, use of GS1 identifiers, label formats), validate that the new system can read and interpret existing tags, decide whether to dual-tag for a defined period, and estimate labor and downtime if re-tagging is unavoidable.

Identify data portability and report continuity requirements. Historical tag events support recalls, compliance, analytics, and continuous improvement; losing them resets learning and weakens governance. When Customers can request an export of tag and event data in a usable format from the incumbent vendor, define master data mapping (item IDs, locations, kit IDs), and plan a cutover for dashboards and downstream interfaces (inventory systems, EHR, ADC, analytics).

Outline infrastructure reuse assumptions and validation needs. Readers, antennas, and

handhelds may not be reusable across vendors, and replacement drives both cost and schedule risk. Inventory deployed hardware and network drops, confirm standards-based compatibility (frequency, protocols, firmware support) where applicable, and include site survey and performance validation in the switching plan.

Develop a cohesive transition approach (pilot, parallel run, and phased go-live). Choose a bounded pilot area, run both systems in parallel if feasible, define success criteria (read rate, workflow time, inventory accuracy), and execute a phased rollout with training, downtime procedures, and escalation paths.

CONCLUSION

For health systems ready to take the next step, an agile RFID system is not defined by the presence of tags alone—it is powered by interoperable data, reliable workflows, and infrastructure that supports the next use case without rebuilding the last one. The recommendations from this project emphasize interoperability-first selection, a deliberate plan for upstream or automated tagging with procurement transparency, and cross-functional stakeholder engagement that supports enterprise-scale use.^{2,4,6}

CHECKLIST FOR AGILE RFID IMPLEMENTATION

This checklist is intended to help teams assess readiness for an agile RFID system—and to identify gaps that would limit interoperability, scalability, or future expansion before go-live, expansion, or vendor switching. This checklist can be used alongside prior ASHP Foundation research white papers (LINK) and the broader discussion guide for ongoing readiness assessment to support the flexibility and adaptability of the RFID system in your organization.

✓ STRATEGIC ALIGNMENT AND VISION

- Interoperability is a critical procurement criterion for RFID-related technologies and vendors.
- A vendor exit or switching plan is documented (contract dependencies, data portability, tag strategy, and transition approach) to reduce lock-in risk.
- There is a clear strategy for unified inventory visibility across RFID, inventory systems, automation, and the EHR.
- A roadmap exists for near-term high-ROI use cases and future expansions (for example, sterile compounding and ambulatory care).
- Key stakeholders (pharmacy, IT, nursing, anesthesia, supply chain, administration) are aligned on goals and roles.

✓ TECHNOLOGY AND INFRASTRUCTURE

- Contracts ideally require compatibility with industry-standard tags, and do not lock the organization into proprietary tags.
- A process exists to identify and preferentially purchase pre-tagged products where available, with buyer education to prevent double tagging.
- Automation options for tag application/encoding are evaluated for high-volume areas (API-driven lookup, robotics, or semi-automation).

- RFID signal testing has been performed in representative environments to mitigate interference, crosstalk, and equipment-related signal loss.
- Network planning leverages existing infrastructure (Wi-Fi/BLE/RTLS backbone) where possible to reduce redundant installation.

✓ WORKFLOW AND OPERATIONS

- Standard work exists for tagging, placement, verification, and exception handling.
- Dedicated and protected staffing resources (RFID champions) are allocated for maintenance, troubleshooting, and expansion.
- There is a plan to integrate RFID-derived data into patient care workflows (for example, lot/expiration capture, administration, waste/return, consumed-tag events).
- Training and competency validation are in place for complex tagging scenarios and basic troubleshooting.
- Proactive expiration management and inventory rotation workflows are supported by reporting capabilities.

✓ OUTCOMES AND ANALYTICS

- KPIs are defined to measure impact on safety, efficiency, financial stewardship, and regulatory readiness.
- Data is routinely used to optimize PAR levels/kit contents and reduce expired inventory.

- ❑ Plans exist for evaluation (barcode vs RFID) to support internal decision making and external sharing where appropriate.
- ❑ Benefits are communicated across departments to reinforce RFID as an enterprise capability.

✔ RTLS AND SHARED INFRASTRUCTURE

- ❑ An RTLS integration strategy exists (or is planned) to enhance asset visibility and cross-department value.
- ❑ RFID and RTLS platforms can link a specific kit/cart ID to passive RFID-tracked contents.
- ❑ Tag placement and signal performance are validated on representative equipment (e.g., metal carts, cabinets) in real clinical environments.
- ❑ Recall response workflows use RTLS reporting rather than manual searches, and are validated with mock recalls before go-live.

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APPENDIX A

ABOUT THE PROJECT AND PARTICIPANTS

18 participants were involved in this ASHP Foundation project, supported by Fresenius Kabi. The group included four advisory committee members and two facilitators (Table 2). Advisory committee and focus group members all had experience in RFID technology in medication-use systems. Project activities occurred between Aug. and Nov. 2025 (Table 1).


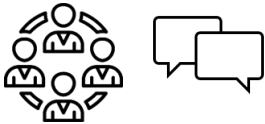


Table 1: Project Activities			
 <p>Pre-work and Convening</p>	 <p>Focus 1: Code Carts</p>	 <p>Focus 2: Towards an Agile RFID System</p>	 <p>Dissemination Activities</p>
<ul style="list-style-type: none"> • Survey of past research participants to prioritize focus • Prior research papers, podcasts, webinars shared <p>Advisory committee and participants: convened and engaged</p>	<p>1. Live Virtual Meeting: Oct. 23</p> <p>Format: Presentation and Discussion</p> <p>Topics included: getting started, switching, expanding—opportunities, challenges, lessons learned.</p> <p>2. Discussion Board: Oct. 24-28</p> <p>Topics included: RFID implementation, staffing, evaluating ROI, other uses of RFID data, and interoperability</p>	<p>1. Live Virtual Session: Nov. 4</p> <p>Format: Presentation and Discussion</p> <p>Topics included: explore the need for agility, current gaps, and the role of interoperability along with future use applications.</p> <p>2. Discussion Board: Nov. 5-7</p> <p>Topics included: data integration across systems, expanding uses/vendors, safety/risk mitigation, and next steps.</p>	<p>Two white papers written by advisory committee members based on discussions, presentations and expertise</p> <p>Presentations from two virtual meetings</p> <p>Actionable insights podcast</p>

Table 2: Project Participants

Advisory Committee	
<p>David Aguero, PharmD, MSTL, FASHP, FAMIA Director, Medication Systems and Informatics Division of Pharmaceutical Services St. Jude Children's Research Hospital</p>	<p>Ryan Cello, PharmD, FASHP Pharmacy Manager-Automation, Informatics, Analytics & Diversion Detection Volunteer Assistant Clinical Professor UCSF School of Pharmacy</p>
<p>Amanda Beck, PharmD, MS Director of Pharmacy Houston Methodist Cypress Hospital</p>	<p>Arpit Mehta, PharmD, MPH, MHA, CPEL, FASHP Director of Pharmacy HSPAL Residency Coordinator AHN Allegheny General Hospital</p>
Virtual Focus Group Participants	
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<p>Catherine Floroff, PharmD, BCPS Pharmacy Director, Inpatient Pharmacy Sentara Norfolk General Hospital</p>	<p>Kathryn F. Schwartz, RPh Pharmacy Operations Manager Penn Medicine Doylestown Hospital</p>
<p>Matthew G. Gimbar, PharmD Sr. Assoc. Director of Pharmacy Operations University of Illinois Hospital</p>	<p>Blake D. Shay, PharmD, MS, BCPS Pharmacy Manager BayCare Health System Tampa, FL</p>
<p>Barbara A. Higgins, PharmD Director of Pharmacy University of Michigan Health Academic Med. Ctr.</p>	<p>Tyler Tomasek, PharmD, MS, BCPS Senior Director-Pharmacy Information Technology Cleveland Clinic</p>
<p>John D. Hill, PharmD, MS, BCPS, BCSCP, CPEL, FASHP Pharmacy Executive Pharmacy Enterprise Solutions at Vizient, Inc.</p>	<p>Jeffrey Wagner, PharmD, MPH, BCPS Vice President Texas Children's Hospital</p>
<p>Ann E. McKinstry, RPh Performance Improvement Pharmacist Rady Children's Health</p>	<p>Steve Wenger, BS Pharm, RPh-Retired Pharmacist Rady Children's Health</p>
Facilitators	
<p>Angela T. Cassano, PharmD, BCPS, FASHP President Pharmfusion Consulting, LLC</p>	<p>Barbara B. Nussbaum, BSPharm, PhD Vice President for Research and Education ASHP Foundation</p>



About the ASHP Foundation

The ASHP Foundation was established in 1968 by ASHP as a nonprofit, tax-exempt organization. As the philanthropic arm of ASHP, the Foundation shares ASHP's vision that medication use will be optimal, safe, and effective for all people all of the time. Our mission is to support ASHP by advancing the professional practice of pharmacists and the pharmacy workforce by funding research and education that improves health outcomes through optimal, safe, and effective medication use. To learn more about the Foundation's programs, visit ashpfoundation.org.

This ASHP Foundation project was supported by Fresenius Kabi.

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