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White Paper

The State of Pharmacy Automation

What Independent Pharmacy Owners Need to Know Before They Buy

Executive Summary

Independent pharmacy is under structural pressure from three directions at once: a labor market where qualified pharmacists are harder to find and more expensive to keep, a reimbursement environment where gross profit margins have fallen to multi-decade lows, and a technology market full of AI promises that do not survive contact with how independent pharmacy actually operates.

This paper examines where pharmacy automation stands today, why most AI solutions fail in independent pharmacy environments, and how to evaluate any AI tool against the four criteria that actually matter for a licensed, multi-system, PHI-handling operation.

The central finding: significant pharmacist time is recoverable through AI automation, but only with a deployment model that reaches across application boundaries without requiring API integration, keeps the pharmacist as the final authority on every clinical decision, and maintains an audit trail that satisfies HIPAA and state board requirements. That model exists and is deployable today.

Five findings for independent pharmacy owners:

1. Independent pharmacists spend approximately 72% of their weekly time on dispensing-related tasks. That time is recoverable.
2. Independent pharmacy gross profit margins fell to 18.2% in 2024, the lowest in the NCPA Digest tracking history.
3. Prior authorization alone generates significant weekly staff-time burden at a typical independent pharmacy, at roughly 20 minutes per manual request.
4. PMS-native AI only automates what is inside one system. Most high-cost pharmacy workflows cross multiple applications.
5. NABP and ASHP published governance frameworks in 2024-2025 making explicit that AI cannot supplant pharmacist professional judgment. Governed AI is the compliance requirement.

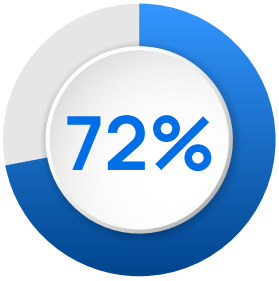
The Pressure Independent Pharmacy Is Under

Three compounding pressures have converged to create a moment where independent pharmacy owners who delay the automation decision are losing ground to owners who have already made it.

The Pharmacist Time Problem

According to the 2022 AACP National Pharmacist Workforce Study, independent pharmacists spend approximately 72 percent of their weekly time on dispensing-related patient care activities (2022 AACP National Pharmacist Workforce Study). A 2025 peer-reviewed synthesis corroborates that figure at 71.8 percent (Healthcare (Basel), PMC12346477).

Clinical services, patient counseling, medication therapy management, and the billable activities that differentiate independent pharmacy from a mail-order operation account for roughly 13 percent of pharmacist time (2022 AACP National Pharmacist Workforce Study). The average independent pharmacy fills 217 prescriptions per day (NCPA Digest 2024). At that volume, the administrative burden is not a minor friction. It is the dominant cost structure of the operation.



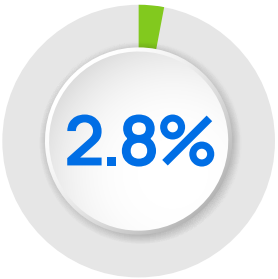
72% of independent pharmacist weekly time goes to dispensing-related tasks, not clinical care (2022 AACP National Pharmacist Workforce Study)

The Staffing and Labor Cost Problem

The pharmacist shortage is structural and measurable. Pharmacist job postings rose to 20,053 in Q1 2025, up from 18,896 in Q1 2024, with retail pharmacist openings consistently representing the largest single demand category (Becker's Hospital Review, 2025). The 2024 National Pharmacist Workforce Study found pharmacist unemployment at just 2.8 percent, the lowest since 2019, which lead researchers describe as a signal the workforce

is entering a re-emerging shortage situation (2024 AACP National Pharmacist Workforce Study, Executive Summary; University of Wisconsin-Madison School of Pharmacy, June 2025).

The technician shortage amplifies the problem directly. Nationwide pharmacy technician vacancy rates reach 40 percent in some settings (ASHP Midyear Clinical Meeting, December 2024). When technician positions go unfilled, dispensing work falls to pharmacists. 67 percent of independent pharmacy owners reported difficulty filling open staff positions, with pharmacy technicians as the most in-demand category (NCPA Drug Store News Survey, 2024).



2.8% pharmacist unemployment rate in 2024, the lowest since 2019. Researchers describe it as a re-emerging shortage signal (2024 AACP National Pharmacist Workforce Study)

The Margin Crisis

Independent pharmacy gross profit margins have been in structural decline for a decade. The NCPA Digest reported that gross profit margin fell to 19.7 percent in 2023, the lowest in the Digest's 10-year tracking window (NCPA Digest 2024). The 2025 Digest confirmed a further decline to 18.2 percent in 2024 on higher prescription volume and higher sales, meaning per-prescription reimbursement deteriorated faster than volume growth could offset (NCPA Digest 2025).

Direct and Indirect Remuneration (DIR) fees, which CMS documented grew more than 107,000 percent between 2010 and 2020, were restructured effective January 2024 into lower point-of-sale ingredient reimbursement (NACDS: DIR Fees Explained). Rather than resolving the reimbursement problem, the reform crystallized it. Milliman analysis confirmed the net effect was a reduction in pharmacy reimbursement, with PBMs repricing contracts downward to recapture fee value previously collected retroactively (Frier Levitt, 2024).

The operational consequence is visible at the location level. Independent pharmacy locations totaled 18,960 as of July 2025 (NCPA 2025 Overview of Independent Community Pharmacy), and 326 independent pharmacies closed in the first 10 weeks of 2025 alone following the collapse of federal PBM reform efforts (American Economic Liberties Project, March 2025). Owners who cannot reduce their per-script administrative cost are operating on borrowed time.

Revenue growth is not rescuing margins. The per-prescription reimbursement rate has deteriorated faster than volume has grown.

The Technology Gap

Independent pharmacy owners know automation is the answer. The problem is that every AI product they have been shown requires something their operation was not built for: an API their PMS does not have, a cloud migration they cannot afford, or a deployment their one-person IT setup cannot support.

Pharmacy management systems were built to dispense prescriptions, not to integrate with AI platforms. Whether a PMS is SaaS-hosted, on-premise, or running on aging local hardware, most AI vendors cannot reach it without a backend integration that requires the PMS vendor's cooperation, a meaningful IT project, or both. The technology gap is not a budget problem. It is an architecture problem.

What Pharmacy AI Is Actually Delivering

The vendor landscape around pharmacy AI has expanded quickly. Most offerings fall into one of three categories, each with limitations that pharmacy owners need to understand before committing resources or budget.

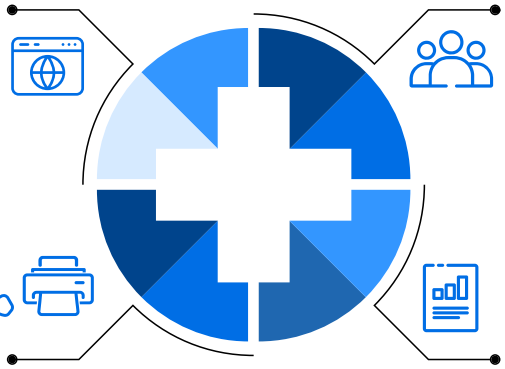
PMS-Native AI

Most major pharmacy management system vendors now have an AI story. For independent pharmacy owners, this sounds like the cleanest path: automation built into the system already in place.

The structural limitation is real: PMS-native AI automates workflows inside the PMS. Nothing else. A pharmacist's day spans far more than one application. Prior authorizations are worked in insurance portals. Controlled substance transactions are reported in state systems. Payer coverage questions are resolved through payer-direct portals. Claim rejections are reworked through adjudication tools and secondary applications.

Prior authorization illustrates the scale of what PMS-native AI cannot reach. A 2025 Surescripts survey of 250 pharmacists found that 88 percent say the PA process often or always delays treatment (Surescripts Pharmacist Survey, Drug Store News 2025). The CAQH Index documents that a single manual prior authorization takes approximately 20 minutes of staff time (2023 CAQH Index Report). None of that work happens inside the PMS. PMS-native AI cannot follow it.

Where PA workflows actually live (outside the PMS):



Payer and Insurance Portals
Where PA requests are submitted and tracked

Prescriber Coordination
81% of pharmacists cite difficulty getting prescriber responses as a key PA challenge

Phone and Fax Channels
Still the dominant submission method

State Systems
Controlled substance reporting and Schedule II/III prior authorizations

Sources: Surescripts Pharmacist Survey 2025; APhA; 2023 CAQH Index

When a PMS vendor says their AI automates pharmacy workflows, they mean their workflows. Their AI roadmap ends at the boundary of their product.

Generic AI Tools

Consumer AI tools and general-purpose automation platforms have improved dramatically. But two problems cannot be engineered around in a pharmacy environment. First, most generic AI platforms cannot reach an on-premise or legacy PMS without an API. Second, these tools interact with protected health information without the containment, access controls, or audit trails that HIPAA and state board requirements demand.

The National Association of Boards of Pharmacy launched a dedicated Presidential Initiative in 2024-2025 specifically to help boards evaluate AI tools against public health and safety standards, explicitly citing data privacy as a central concern (NABP: Embracing Innovative Technologies, 2024). ASHP's 2024 Statement on Artificial Intelligence in Pharmacy directly flags that many commercial AI tools, including large language models, are not HIPAA-compliant and that organizations must assess PHI security before any deployment (ASHP Policy 2428, November 2024). In independent pharmacy, where every prescription record is PHI and every workflow touches patient data, that compliance gap is not theoretical. It is the reason a generic AI deployment will not survive a board review.

Robotic Process Automation

RPA was positioned for years as the answer to repetitive workflow automation. The operational experience has generally been consistent: high build cost, brittle maintenance, and significant overhead when a PMS updates its interface.

An RPA workflow is built against a specific version of a specific application. When the screen layout changes, the workflow breaks. In a multi-system pharmacy environment where PMS updates, payer portal redesigns, and state system upgrades happen without notice, RPA maintenance becomes a second job. The cost of keeping automations running often approaches or exceeds the labor savings they were supposed to deliver.

The Compliance Reality

In 2024 and 2025, NABP and ASHP both published formal governance frameworks specifically addressing AI in pharmacy operations. The direction of both frameworks is unambiguous: AI is a legitimate tool, but it cannot supplant pharmacist professional judgment, final verification, or regulatory accountability.

What NABP and ASHP Have Actually Said

NABP's 2024-2025 Presidential Initiative exists specifically to help state boards and pharmacists evaluate AI tools against public health and safety standards (NABP: Embracing Innovative Technologies, 2024). NABP's 2025 annual report identified the central governance problem directly: regulators often lack the expertise to fully understand these advancements, and regulations are often slow to adjust (NABP Innovations Magazine, March 2025).

ASHP Policy 2413, passed unanimously by the ASHP House of Delegates in June 2024, and ASHP Policy 2428, approved in November 2024, together constitute the most detailed formal governance framework for AI in pharmacy to date (ASHP House of Delegates, July 2024; ASHP Policy 2428, November 2024). The key line from Policy 2428 is direct: fully automated AI should be reserved for algorithmic tasks where AI performance is

comparable to that of its human counterpart. Final decision-making authority remains with the pharmacist.

Louisiana's State Board of Pharmacy has issued draft guidance with language that reflects where state-level rules are heading: AI is a tool, not a pharmacist. No AI system may be designed or used to eliminate pharmacist review for final dispensing verification, clinical decisions, or patient counseling (BSW LLP: AI Is a Tool, Not a Pharmacist, 2025). Other states are advancing similar language through their board processes.

> *"Fully automated AI should be reserved for algorithmic tasks where AI performance is comparable to that of its human counterpart."*
>
> *— ASHP Policy 2428, November 2024*

What Governance Means in Practice

For independent pharmacy owners evaluating any AI tool, the regulatory consensus translates to four operational requirements:

- **Access controls:** The AI system accesses only the data and applications required for a specific workflow. It does not have broad system access.
- **Audit trail:** Every action the AI takes is logged with a timestamp and identity record, in a format that can be exported and reviewed by a board or compliance team.
- **PHI containment:** Patient health information does not leave the governed environment. There is no exposure to general-purpose AI platforms or third-party model training pipelines.
- **Pharmacist authority:** For any decision involving clinical judgment, the pharmacist is the decision-maker. The AI prepares the work. The pharmacist approves the outcome.

The fourth requirement carries legal weight that the other three do not. The licensed pharmacist carries professional and legal responsibility for every dispensing decision. That responsibility cannot be delegated to an AI system regardless of capability (ASHP Policy 2428, November 2024). An AI tool that approves, modifies, or finalizes a prescription or clinical decision without pharmacist review is not a productivity tool in a licensed pharmacy environment. It is a liability.

What Ungoverned AI Costs

ASHP's 2024 governance statement identifies two specific liability scenarios for ungoverned AI deployment: when AI recommends correctly and the pharmacist dismisses it without documentation, and when AI recommends incorrectly and the pharmacist accepts it without adequate review (ASHP Policy 2428, November 2024). In both cases, an audit trail that does not exist cannot be produced. A PHI breach from an improperly secured AI tool triggers HIPAA breach notification obligations and potential OCR investigation. Governed AI is not a more expensive version of the same thing. It is the only version that is deployable in a licensed pharmacy environment.

A Framework for Evaluating Pharmacy AI

Before committing to any pharmacy AI tool, independent pharmacy owners should ask four questions. These are designed to surface the architectural realities that determine whether a tool will actually work in your operation.

Question 1	Does it work with my existing PMS, regardless of how that PMS is deployed?
Why it matters	Most AI tools require APIs, cloud infrastructure, or a PMS migration. If your PMS is on-premise, legacy, or not on a major vendor's current integration roadmap, a tool that requires an API has no path to deployment in your environment.
What to ask	How specifically does this tool connect to my PMS? Can you show me a deployment with the same PMS version I am running? The honest answer is either yes with a specific explanation, or no.

Question 2	Does it cross application boundaries, or does it only work inside a single system?
Why it matters	The highest-cost pharmacy workflows, prior authorizations, claim rejection rework, benefit investigations, do not live entirely inside your PMS. A tool limited to PMS automation leaves those workflows untouched.
What to ask	Show me a prior authorization workflow from start to finish. If the demonstration does not cross from the PMS into a payer portal and back, the tool does not solve the problem you are paying for.

Question 3	Is the pharmacist in the decision loop for every clinical action?
Why it matters	ASHP Policy 2428 and emerging state board guidance are explicit: no AI system may eliminate pharmacist review for final dispensing verification or clinical decisions (ASHP Policy 2428; BSW LLP, 2025). A tool that automates clinical approvals without pharmacist review is creating liability, not reducing it.
What to ask	Where exactly does the pharmacist approve the outcome, and how is that approval logged? The answer should be unambiguous. Any hedging on this question is a signal.

Question 4	Is there a full audit trail, and does it satisfy HIPAA and state board requirements?
Why it matters	Compliance exposure without an audit trail cannot be remediated after the fact. The log needs to capture every AI action with timestamp, identity, and context, in a format that can be exported and reviewed.
What to ask	What format is the audit log exported in, and has it been reviewed by a compliance or legal team against HIPAA requirements? Ask for documentation. A vendor who cannot produce it has not solved the problem.

What a Right-Sized Deployment Looks Like

Independent pharmacy owners who have gotten AI automation to work describe the same pattern: start with one workflow, in one location, with a clear before-and-after measurement. Prove the value. Then expand.

Broad automation deployments across multiple workflows simultaneously create integration complexity, training burden, and accountability gaps that undermine the investment. Narrow deployments create proof.

The Right Starting Workflow

The highest-return starting workflows share three characteristics: they are repetitive, they have a clear pharmacist approval step, and they currently consume significant time without requiring clinical judgment at every step.

Strong starting candidates:

- **Prior authorization preparation:** gathering patient history, building the PA submission, routing for pharmacist review before submission. At roughly 20 minutes per manual request (2023 CAQH Index Report), this is where the highest recoverable time sits.
- **Claim rejection triage:** identifying rejection reason, pulling relevant patient and payer records, preparing the corrected submission for pharmacist or staff review.
- **Refill list management:** identifying eligible refills, pulling patient adherence history, generating an outreach list for pharmacist review.
- **Insurance eligibility verification:** checking coverage status across payer portals before processing.
- **Operational reporting:** generating daily fill volume, inventory level, and expiration tracking reports without pharmacist time.

Dispensing verification, controlled substance approvals, and clinical counseling decisions are not starting points for automation. They are the work that automation is designed to protect pharmacist time for.

The Architecture That Works in Independent Pharmacy

The deployment model that works in independent pharmacy connects to the existing PMS over an encrypted tunnel, the same way a secure remote session reaches any application. The PMS stays exactly where it is. The AI Technician drives it through the screen, the way a trained technician would. There is no backend access, no database connection, and no new attack surface created in the pharmacy's local environment.

Sonet deploys PAT (Pharmacy AI Technician) using this model. PAT connects to any PMS, whether SaaS, on-premise, or cloud-deployed, over an encrypted tunnel. No API is required. Nothing is installed inside the PMS. Deployment is handled by Sonet.

Measuring the First Deployment

Before deploying, establish a baseline for the specific workflow being automated. What matters is time: how many pharmacist or technician hours per week currently go to this workflow, and how long the average task takes from initiation to completion.

After 30 to 60 days, measure the same numbers. The before-and-after comparison is the business case for expanding to additional workflows and locations.

What to Do in the Next 30 Days

This checklist is useful regardless of which vendor or solution you are evaluating. It gives independent pharmacy owners a structured basis for making an informed automation decision rather than a reactive one.

Audit your highest-cost manual workflows

List the top 5 workflows where pharmacist or technician time is spent on non-clinical, repetitive tasks. Prior authorization, claim rejection rework, and refill management are the most common highest-cost items.

Map which applications each workflow touches

For each workflow on your list, note every application it requires: PMS, payer portal, state system, phone/fax. Any workflow that touches more than one system exposes the boundary problem that PMS-native AI cannot cross.

Confirm your PMS deployment model

Know whether your PMS is SaaS-hosted, on-premise, cloud-deployed, or a hybrid. This is the first qualification question for any AI vendor. If they cannot confirm they work with that deployment model, stop the conversation.

Ask every AI vendor the four evaluation questions

Use the four questions from Section 4. Document the answers. Any vendor who hedges on pharmacist-in-the-loop design or cannot describe their audit trail in concrete terms has answered your question.

Request a Business Associate Agreement

Before any tool touches pharmacy workflows, request a BAA. A vendor who cannot produce one is not a viable option in a pharmacy environment under HIPAA.

Set a 30-day pilot baseline

Choose one workflow, one location. Measure time-per-task and error or rejection rate today. This is your comparison point when the pilot is complete.

Check your state board's position on AI

Louisiana has issued draft guidance explicitly stating AI cannot eliminate pharmacist review for dispensing verification or clinical decisions (BSW LLP, 2025). More states are following.

Read ASHP Policy 2428

It is publicly available and readable in 20 minutes. It is the clearest statement from a major professional body of what governed AI in pharmacy must look like (ASHP Policy 2428, November 2024).

The Cost of Waiting

Independent pharmacy gross profit margins fell from 19.7 percent to 18.2 percent in a single year, on higher prescription volume (NCPA Digest 2024; NCPA Digest 2025). The pharmacist shortage is structural, with retail posting volume rising and unemployment at a near-record low (Becker's Hospital Review, 2025; 2024 AACP National Pharmacist Workforce Study). Prior authorization burden is growing, not shrinking. Three hundred twenty-six independent pharmacies closed in the first ten weeks of 2025 (American Economic Liberties Project, March 2025).

The vendors who offer the deployment model that works in independent pharmacy, the encrypted tunnel connection, the pharmacist-in-the-loop approval, the full HIPAA-grade audit trail, are not a future category. They exist now. The question for independent pharmacy owners is not whether this technology is ready. It is whether your operation can afford another year absorbing costs that are now automatable.

> *Governed AI can transform your pharmacy. Ungoverned AI agents can destroy it.*

Both categories are being sold to independent pharmacy owners right now. The evaluation framework in this paper is designed to help you tell them apart.

Conclusion

Independent pharmacy automation is not a technology problem. It is an architecture and governance problem. The right AI deployment connects to the existing PMS without requiring a migration, works across the multi-system workflows where pharmacist time actually goes, keeps the pharmacist as the final decision authority on every clinical action, and maintains a complete HIPAA-grade audit trail.

That model exists. It starts with one workflow, one location, and a measurable before-and-after comparison that makes the next decision easy.

About PAT (Pharmacy AI Technician)

PAT is a governed AI Technician from Sonet.io that drives pharmacy management systems and adjacent applications through the screen, over an encrypted tunnel, with no API or backend integration required. PAT works with any PMS, regardless of deployment model.

Pharmacist-in-the-loop approval is built into every clinical workflow. Deployment is handled by Sonet.

HIPAA-grade governance. Full audit trail. PMS-agnostic.

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