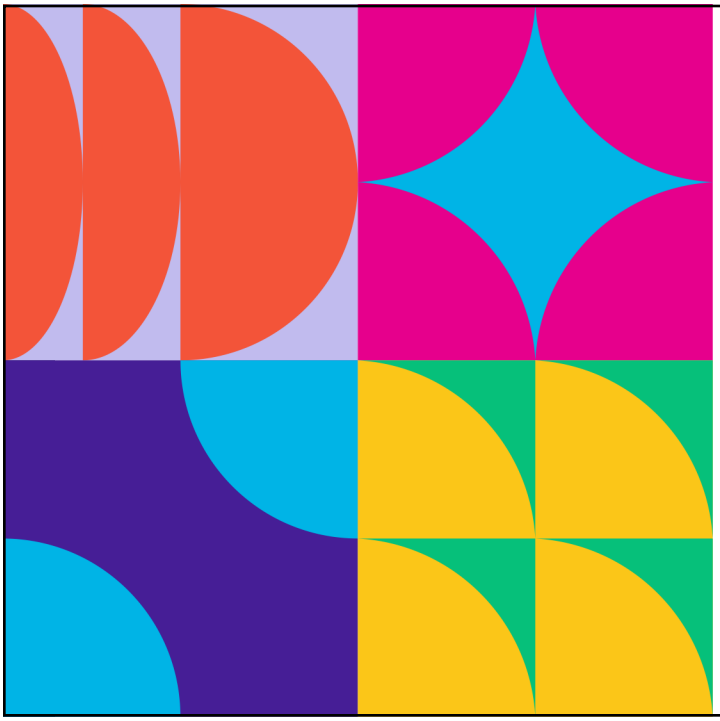


Using Pharmacy Data to Drive Better Decisions

Ashley Moose, PharmD

Description

Get hands-on with pharmacy performance dashboards and key reports. Examine how dispensing, adherence, payer, and operational data reveal care gaps, workflow challenges, and opportunities for improvement. Use these insights to prioritize what matters most and guide ongoing decisions that strengthen patient outcomes and business performance.

Meet the Faculty

Ashley Moose, PharmD

Owner/Pharmacy Manager
Moose Pharmacy of Monroe

Ashley Moose

Ashley Moose, PharmD earned her bachelor's degree from the University of Kentucky and her PharmD from Campbell University. She completed PGY1 and PGY2 Community Pharmacy Residencies with the UNC Eshelman School of Pharmacy and Moose Pharmacy.

Ashley is Pharmacy Manager/Co-Owner of Moose Pharmacy of Monroe, Co-Owner of Moose Pharmacy of Mount Holly, and Director of Network Development for CPESN USA, where she helps develop clinically integrated community pharmacy networks. She also serves on the National Community Pharmacy Association (NCPA) Leadership Team.

She leads innovative patient care services, including immunizations, MTM, women's health, diabetes care, and disease state management, and helped establish a direct primary care clinic within the pharmacy. Ashley is also a preceptor for pharmacy students from UNC, Wingate, and Campbell.

Ashley has been recognized as the North Carolina Association of Pharmacists Community Pharmacist of the Year and the NCPA Outstanding Adherence Educator. Outside of pharmacy, she is an accomplished distance runner who has completed all six Abbott World Marathon Majors.

Disclosures

- Ashley Moose has no relevant financial relationships with ineligible companies to disclose.
- Ashley Moose discloses that AI tools were utilized to generate content included in this presentation.

Funding for this course was provided by Cencora.

Learning Objectives

Upon completion of this activity, learners should be able to:

- Summarize key data sources for monitoring adherence, quality, and financial performance.
- Identify pharmacy metrics that reveal workflow, patient care, and service gaps.
- Assess pharmacy performance data to detect bottlenecks, margin risks, and service opportunities.
- Apply insights to prioritize interventions that improve patient outcomes and operations.
- Design a high-level, data-driven plan to improve one area of pharmacy performance.

Community Pharmacy Technology Solutions

Pharmacy Management Systems (PMS)	• Operating platforms for **dispensing**, **billing**, and **workflow**
Pharmacy Automation, Adherence Packaging, & Robotics	• Automated **dispensing machines** and robotic **prescription fulfillment** to improve efficiency and aid in error reduction
Clinical Decision Support	• Clinical decision support and drug interaction checking to **assist in patient care**
Patient Engagement & Digital Tools	• **User-friendly customer engagement** tools for prescription refills, appointment scheduling, adherence check-ins, medication reminders, customer questions
Interoperability & EHR Integration	• **Connections** to allow for **cohesive team-based care** through **EHR** interfacing, DSCSA compliance, and e-prescribing platforms
Inventory & Supply Chain Management	• Integrated prescription management, inventory **forecasting**, **reorder point optimization**, and **intelligent** cycle counting
AI & Analytics Platforms	• **Workflow** automation (data entry, voice agents), population health analytics

EHR: Electronic Health Record; DSCSA: Drug Supply Chain Security Act

Data to Support Business Decision-Making

Community-Based Pharmacy Metrics (By Department)

Pharmacy

Adherence
- Sync Percentage

Financial Benchmarks
- Gross Profit
- Rx Volume
- Generic Dispensing Rate
- Revenue Per Patient
- Inventory
- Inventory Turns
- Accounts Payable

Patient Engagement
- Inbound Calls
- Phone/Text Campaigns
- # of Deliveries

Clinical

- # Vaccines Administered
- # Injectables Administered (Long-Acting Injectables, B12, Testosterone)
- CMS Star Rating Measures
- HEDIS measures
- Comprehensive Medication Review (CMR) Completion
- # Point-of-Care Testing
- Care Plan Completion
- Payer Program Intervention Submissions*

Front End

- OTC Sales
- Promotional Sales (i.e., Companion Sales Initiative)
- OTC Card Sales

Human Resources

- Pharmacist-to-Technician Ratio
- Staff Turnover
- Regulatory Compliance
- DEA Requirements
- State Board Requirements

*Type or number of submissions depends on payer program opportunities in your state

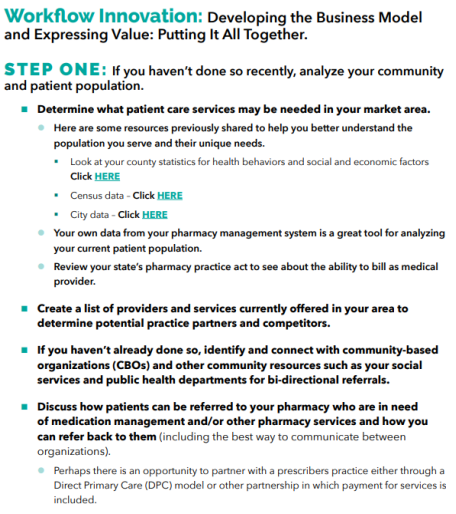
Considerations When Expanding Clinical Services

Base Pharmacy	Pharmacy +	Pharmacy ++	Pharmacy +++
• Meets minimum requirements • Pills in bottles • Standard dispensing process • Drug Utilization Review (DUR) • Patient counseling • Other legally mandated services	• Vaccines • Medication synchronization • MTM: Comprehensive Medication Reviews (Medicare) • Adherence assessment/coaching • New drug therapy consultations	• Adherence med packaging • Pharmacist prescribing • Medication administration • Point-of-care testing • Tobacco cessation • At-home vaccines • Travel vaccines/consultation • Medication reconciliation/ transitions of care • Gap closures; STAR/HEDIS metric improvement • Care coordination • Behavioral health support • Social determinants of health (SDOH) screenings • Care planning • BP, weight monitoring • Opioid management/naloxone	• Clinical home visits • At-risk gap closures; STAR/HEDIS improvements • Lifestyle coaching/preventive care • Pharmacogenetic testing/counseling • Chronic care management • Remote patient/therapy monitoring • Primary care services (i.e., annual wellness visits, disease state monitoring) • Risk assessments • Community health worker (CHW) services • Deprescribing services • Condition education, counseling, and management

The content of this slide was adapted and used with permission by the original author, Troy Trygstad, Executive Director of CPESN USA.

Considerations When Expanding Clinical Services

- Evaluating Community Need for Clinical Services
  - Demographic analysis
    - Age, chronic disease burden
  - Gaps in local healthcare access
    - Underserved areas, physician shortages, specialty deserts
  - Disease prevalence
  - Patient willingness
    - Patient feedback, surveys



Workflow Innovation: Developing the Business Model and Expressing Value: Putting It All Together.

STEP ONE: If you haven't done so recently, analyze your community and patient population.

- **Determine what patient care services may be needed in your market area.**
  - **Here are some resources previously shared to help you better understand the population you serve and their unique needs.**
    - Look at your county statistics for health behaviors and social and economic factors **Click HERE**
    - Census data - **Click HERE**
    - City data - **Click HERE**
  - **Your own data from your pharmacy management system is a great tool for analyzing your current patient population.**
  - **Review your state's pharmacy practice act to see about the ability to bill as medical provider.**
- **Create a list of providers and services currently offered in your area to determine potential practice partners and competitors.**
- **If you haven't already done so, identify and connect with community-based organizations (CBOs) and other community resources such as your social services and public health departments for bi-directional referrals.**
- **Discuss how patients can be referred to your pharmacy who are in need of medication management and/or other pharmacy services and how you can refer back to them** (including the best way to communicate between organizations).
  - Perhaps there is an opportunity to partner with a prescribers practice either through a Direct Primary Care (DPC) model or other partnership in which payment for services is included.

Flip the Pharmacy. Change Package Domain 6. www.flipthepharmacy.com/_files/ugd/6f822a_7e56f127913e482c8fb472e212fef0cb.pdf

Community-Based Pharmacy Patient Clinical Record Rubric

ESSENTIAL ELEMENTS FOR A LONGITUDINAL PATIENT RECORD
Patient demographics *(names, ethnicity, sex, date of birth)*
Patient contact information *(current address, email address, phone number)*
Health insurance *(coverage type, identifiers & numbers)*
Allergies and intolerances *(substance and reaction)*
Immunizations
Vital signs *(blood pressure, body height & weight)*
Laboratory *(tests, values/results)*
Goals of therapy
Assessments *(screenings and questionnaires)*
Plan of treatment
Outcomes of therapy *(reported, assessed)*
Past medical history
Prescription/OTC/supplement/alternative medication histor
Social history *(substance use, social determinants of health)*

ESSENTIAL FUNCTIONALITIES FOR A PHARMACY PATIENT RECORD SYSTEM	YES	NO
Formatted for intuitive navigation of patient record	☐	☐
Searchable patient clinical notes shown chronologically by date of encounter	☐	☐
Multiple filters for sorting content *(e.g. date of encounter, type of medication-related problems, medications, health conditions/indications, interventions made, results of interventions)*	☐	☐
Dashboard for viewing and analyzing patient information	☐	☐
Calendar/scheduling	☐	☐
Date & time stamp for care plans	☐	☐
Author and location of patient information including care plans	☐	☐
Quick and efficient documentation *(e.g., templates to guide actions)*	☐	☐
Patient identification by selected criteria, affiliations, or payer programs *(tag, flag, color code, sort/filter)*	☐	☐
Running reports based on selected criteria, affiliations, or payer programs	☐	☐
Work queue for navigating care plan progress	☐	☐

ESSENTIAL ELEMENTS FOR A PATIENT ENCOUNTER	YES	NO
Encounter information *(encounter time, type & reason)*	☐	☐
Pharmacist identifier *(author)*	☐	☐
Patient identifier *(first name, middle name/initial, last name, date of birth)*	☐	☐
History of present illness *(problems, social determinants of health problems/health concerns)*	☐	☐
Relevant prescription/OTC/supplement/alternative medication history/adherence *(medications relevant to the acute patient care episode)*	☐	☐
Assessment *(identification of medication-related problems)*	☐	☐
Plan of action to address problems *(interventions, procedures)*	☐	☐

ThoughtSpot | CEimpact 11

McDonough RP, Fish H, Satterfield, J et al. *J Am Pharm Assoc (2003)*. 2024;64(2):499–505.

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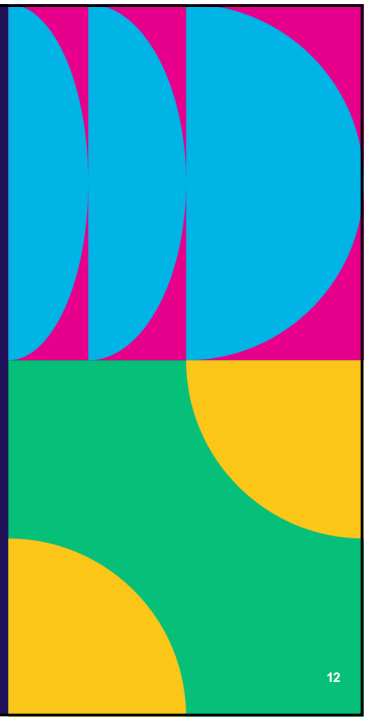
Tools for Analyzing Pharmacy Data



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NCPA Digest Reports Community-Based Services Offered

Table 9: Services included in medication synchronization

	2022	2023	2024
All chronic medications synchronized to a single monthly pick-up date	93%	94%	96%
Patient is called 4 to 10 days in advance of the monthly pick-up date	60%	66%	68%
Pharmacist meets with patient as needed to review medication use	68%	63%	65%
Patient is called the day before the pick-up date	37%	40%	38%
Med sync optimized geographically for delivery service	22%	27%	26%

Table 10: Emerging models — enhanced services pharmacies

	2022	2023	2024
Point-of-care testing (CLIA-waived tests)	67%	52%	45%
Collaborative drug therapy agreements	42%	35%	31%
Contract with non-pharmacy health care professional	41%	22%	46%
Clinical coordinator	24%	13%	20%
Community pharmacy residency program	8%	6%	7%
Medications for Opioid Use Disorder		54%	49%
Medicare diabetes self-management training			12%

Table 11: Summary of patient care goods and services offered

	2022	2023	2024
Wound care	81%	80%	80%
Medication therapy management	80%	81%	80%
Compression socks and hosiery	70%	71%	66%
Smoking cessation aids	42%	68%	29%
Compounding	62%	47%	45%
Ostomy supplies	26%	30%	22%
Skincare		65%	57%
Bath safety		63%	51%

National Community Pharmacists Association. (2025). *2025 NCPA Digest*, sponsored by Cardinal Health. https://ncpa.org/newsroom/news-releases/2025/10/19/ncpa-releases-2025-digest-report

Example 1: Understanding Financial Reports Using AI Resources

NotebookLM

NotebookLM. (2026). Audio overview, "Why Your Neighborhood Pharmacy is Closing," based on Drug Channels Institute's *The 2026 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers.*

Fein, A. J., & Drug Channels Institute. (2026). *The 2026 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers.* Drug Channels Institute. https://drugchannelsinstitute.com/products/industry_report/pharmacy/

Example 2: Understanding Blood Glucose Using AI Resources

Your Glucose Summary — 30 Days

Your numbers look really good overall. Here's what each metric means:

96% Time in Range This is the star metric. "In Range" typically means 70–180 mg/dL. Spending 96% of the time there over 30 days is excellent — clinical guidelines generally aim for **70% or above**, so you're well beyond that target.

3% Above Target Range A small amount of time with glucose over 180 mg/dL (hyperglycemia). This is quite low and not a concern at this level.

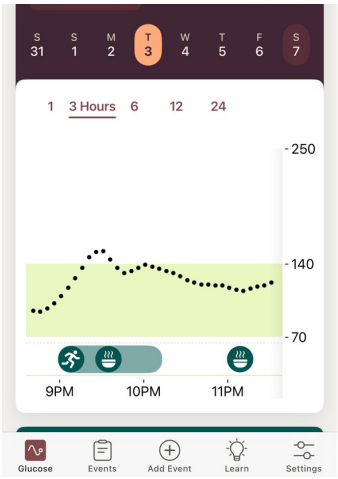
<1% Below Target Range Very little time under 70 mg/dL (hypoglycemia). This is ideal — you want this number as low as possible since lows can be dangerous.

Average Glucose: 106 mg/dL This sits in the normal range (typically 70–140 mg/dL for non-diabetics, or within target for managed diabetes). It also suggests an estimated A1C roughly in the **5–5.5% range**, which is solidly in normal territory.

Bottom Line

These are genuinely strong numbers. The balance is key — you're staying in range the vast majority of the time **without** dipping low frequently, which means your management (whether through diet, medication, insulin, or lifestyle) is well-calibrated.

Worth bringing this data to your doctor or diabetes care team, as they can interpret it in the full context of your health history and goals.



Analysis of 30-day glucose summary data. Claude, claude-sonnet-4-6, Anthropic, 17 May 2026, claude.ai.
Dexcom/Stelo. (2026). Stelo glucose biosensor. www.stelo.com/en-us

Example 3: Identifying Business Spending Trends Using an AI Tool

Steps

- **Upload** credit card statements into AI tool of your choice
  - **Use** the following prompt:
    - *"Extract all the transactions into a single spreadsheet"*
- **Use cases**
  - **Summarize** spending by card, by category, or by vendor
  - **Reconcile** charges against (receipts, ledgers)
  - **Flag** unusual or duplicate charges
  - **Pull** totals, fees and payments for each statement

Example 4: Promoting a Product or Service Using an AI Tool

Criteria: Promote Adherence Packaging Program, given 15-minute development time, no edits

Moose Pharmacy Adherence Program. Creatify.ai, 17 May 2026, app.creatify.ai

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Daily Workflow Reports

Inventory Dashboard Example

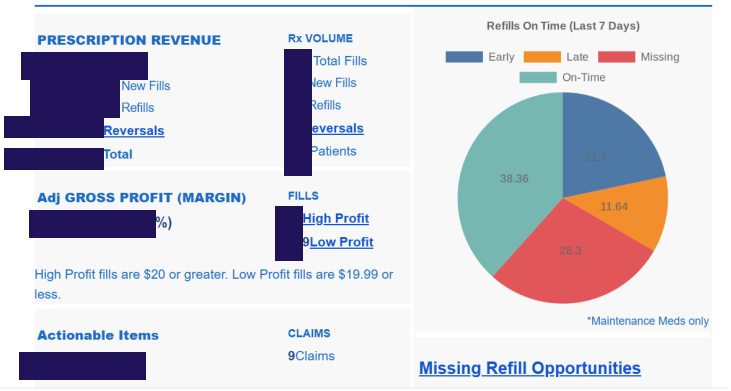
- Inventory in Dollars
- Inventory Turns
- How is your cash flow? Are you buying too much?
- Is there excess inventory on the shelf?

This screen shot is used with the permission of Dave Belinski, President of Datarithm.
Example dashboard shown for illustrative purposes only; access may be limited to participating customers.

Pharmacy Key Performance Indicators (KPIs)

Direct Labor Cost	**Current Ratio**	**Days Cash Available**	**Gross Profit Margin**
Is your scheduling efficient? Evaluate over time and develop over time policies	Weight of total current assets versus total current liabilities at a specific point of time	Days a company can cover operating expenses using the cash available in the business at a point in time	Metric used to determine gross profitability of a business operation
Accounts Receivable Turnover Ratio	**Rebates**	**Personal Expenses**	**Income from Operations**
Average number of days it takes a company to collect on sales recorded in accounts receivable	Financial incentive offered to buyers after they make a purchase	All expenses related to company labor	Income before non-operating items

Daily Performance Report



Learnings:

1. Patients with **Missing or Late Refills** are often targets for your growing Adherence Program.
2. Log In to analyze below profit claims.

Example dashboard shown for illustrative purposes only; access may be limited to participating customers.

Monthly Sales Data Tracking

- Number of prescriptions
- Average number of Rx/month
- Sales
- Gross Profit ($)
- Gross Profit (%)
- Gross Profit ($)/Rx
- Net Profit ($)
- Net Profit (%)
- Net Profit ($)/Rx

Important Formulas for Monthly Sales Data Tracking

Gross Profit (%) = Use formula GP($) / Sales to calculate

Gross Profit ($)/Rx = Use formula GP($) / Number of prescriptions

Net Profit ($) = Use formula Acquisition Cost + GP – Cost (rebate cost)

Net Profit (%) = Use formula NP($) / Sales

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Case Study: Medication Adherence Program Enrollment Analysis

Conducting a 2025 Annual Performance Review:
Moose Pharmacy of Monroe Medication Adherence Enrollment Analysis

1. Build tracking tool to define data trends
2. Pull total summary report (by month)
3. Evaluate data in the established tracking tool
4. Set achievable goals
5. Define interventions to achieve goal
6. Track progress
7. Share post-intervention results with team
8. Refine interventions as needed

Monitoring Adherence Program Metric Tracking Framework

2025	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Total # Prescriptions												
Facility 1: LTC@Home												
Percentage in Moose Pack												
Facility 2: Main St ALF												
Facility 3: ABC Group Home												
Percentage in Sync												
Total in Adherence Program (Moose Pack + Sync)												

Monitoring Adherence Metrics

2025	September	October	November	December
Percentage in Moose Pack	25.05	27.47	25.51	27.63
Percentage in Sync	35.79	36.62	36.82	36.92
Percentage in Moose Pack and Sync	**60.84%**	**64.10%**	**62.33%**	**64.54%**

Target Percentage in Sync = 75%

- Potential interventions include: IOU, delivery patients, brand-name medications, birth control, patients with frequent visits to the pharmacy
- May also refer to daily performance report to see missing refills
- These metrics reviewed at **every** Store Meeting

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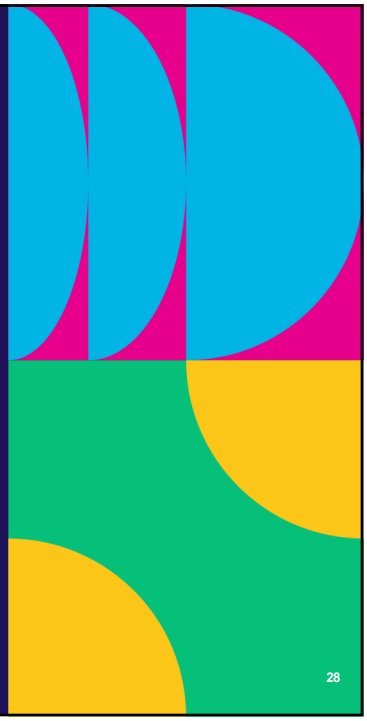
Case Study: Influenza Vaccine Program Evaluation



Influenza Vaccine Program Evaluation

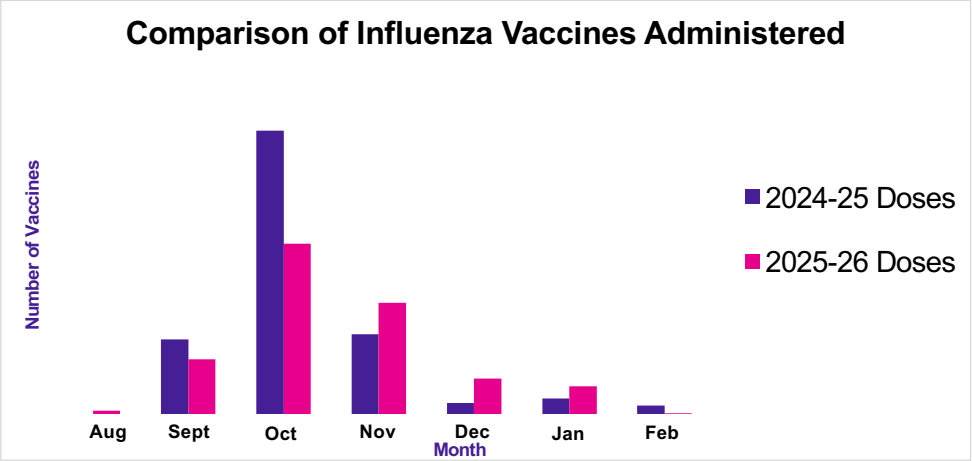
- **Why are we conducting this evaluation?**
  - Concern that fewer vaccines were administered in the pharmacy than previous years
- **How will the results of the evaluation be used?**
  - To determine how many vaccines to pre-order for 2026-2027
  - To develop a strategy to increase vaccine administration at the community pharmacy in the 2026-2027 influenza season
- **What data will be required to perform the evaluation?**
  - 2025 – 2026 influenza vaccine data (all types of influenza vaccine offered)
  - 2024 – 2025 influenza vaccine data (all types of influenza vaccine offered)
- **What time period will the data be extracted?**
  - August 2025 – April 2026
  - August 2024 – April 2025

Influenza Vaccine Program Evaluation: Methods

- Drug Usage Reports were pulled for 2024-2025 and 2025-2026 completed Rx claims
  - Included both IIV3 (standard-dose option) and High Dose (65+ year vaccine option)
- Files exported to spreadsheet
- Classified payer type as one of the following:
  - Medicare
  - Medicaid
  - Commercial
- Deidentified patient data in all reports by deleting patient identifier columns
- Uploaded deidentified patient data in selected AI model
  - “Compare and contrast 2024-2025 and 2025-2026 influenza vaccine data by vaccine type, insurance and month”

Dispensed Item	Date Filled	Insurance Type

Influenza Vaccine Program Evaluation: Results



- 2024-2025 season was heavily front-loaded in October, with 59% of all doses in October alone
- 2025-2026 is flatter with fewer vaccines administered in October, but increased in Nov, Dec, and Jan compared to 2024-2025 season

Influenza Vaccine Program Evaluation: Results

	2024-2025 Season (%)	2025-2026 Season (%)	Change (by number YoY)
Medicare	63%	58%	↓ (-26)
Commercial	33%	36%	↓ (-3)
Medicaid	4%	6%	↑ (+2)
			↓ 27 *Volume down ~14% YoY

YoY: Year-over-Year

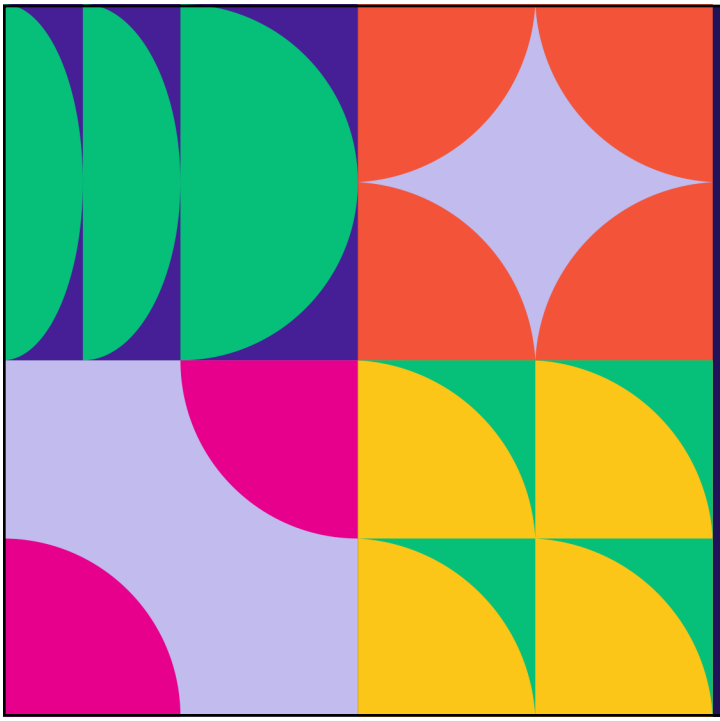
Influenza Vaccine Program Evaluation: Summary of Learnings

- Total doses fell to a 14% year-over-year decline
  - Decline occurred with high-dose vaccine option
  - Standard-dose option was flat
- Medicare is the dominant insurance for influenza vaccine claims for both influenza seasons
- October and November are the busiest months for influenza vaccine administration for both influenza seasons
- Uptake of influenza vaccine declines significantly at the turn of the year

Influenza Vaccine Program Evaluation: Strategy to Increase Influenza Vaccines in 2026-2027

- Pre-order vaccine and be ready to administer at the **beginning** of the season
- Prepare signage and marketing materials in advance
  - Do not wait until vaccine arrives to get flyers, text reminders, and automated call-outs scripted
- Identify off-site flu clinic options
  - Target local businesses in the vicinity of the pharmacy
- Train staff on how to deliver a “strong recommendation”
  - How to frame to offer?

Buttenheim A, Milkman KL, Gromet DM, et al. *JAMA Netw Open*. 2022;5(2):e2143388.



What Else Would You Do for Next Season?

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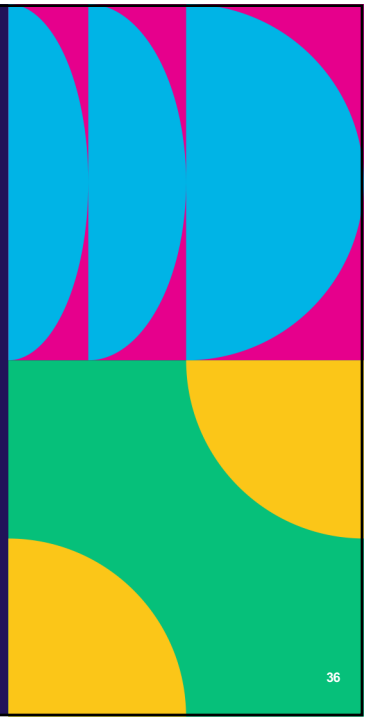
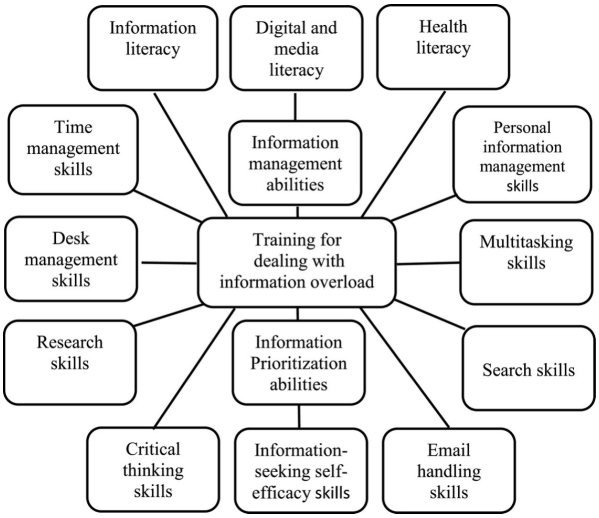
Metric Dashboarding and Reporting



Data Overload Loading…



Shahrzadi L, Mansouri A, Alavi M, Shabani A. *International Journal of Information Management Data Insights*. 2024;4(2):100261.

Effectively Using Data to Drive Pharmacy Outcomes

- **Goodhart's Law**
  - States that "when a measure becomes a target, it ceases to be a good measure."
  - When a measure is used to reward performance, we provide an incentive to manipulate the measure in order to receive the reward. This can sometimes result in actions that actually reduce the effectiveness of the measured system while paradoxically improving the measurement of system performance.
- **The Hanoi Rat Massacre of 1902**
  - French colonial officials offered a bounty for rat tails. Residents began catching rats, cutting off their tails to collect the reward, and then releasing the tailless rats back into the sewers to continue breeding, ensuring a steady supply of tails.

Vann, Michael G. (2018). *The Great Hanoi Rat Hunt: Empire, Disease, and Modernity in French Colonial Vietnam*. Oxford University Press.

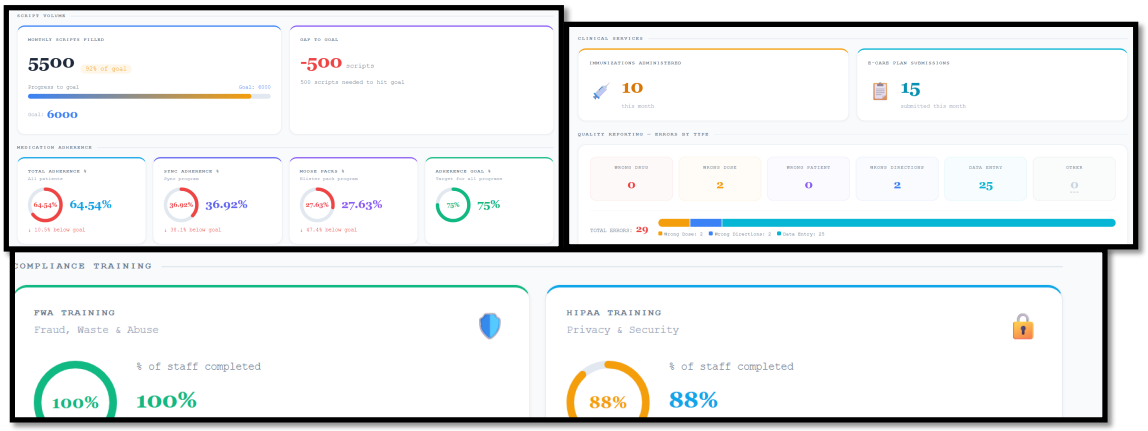
Action Item:
90-Day Challenge to Determine Key Metrics for Tracking

Days 1-30	**Define Key Priorities** •Which metrics are you tracking that are underutilized or not meaningful •Keep only metrics that are important for your focus areas or relate to the strategic plan
Days 31-60	**Establish the "Kill Protocol"** •Start the process of "untracking" or eliminating data points or metrics that you are not using
Days 61-90	**Track, Review, and Share** •Use tools to track essential metrics at a defined period (weekly, monthly, quarterly)

Joutey, S. How to Build a Data Governance Framework from Scratch. www.fygurs.com/blog/how-to-build-data-governance-framework

Sharing the Pharmacy Business Story with Staff

- Share benchmarks that can influence and be meaningful
- Explain why the metrics matter



Example dashboard shown for illustrative purposes only.

Take-Home Action Items

- Consider 1-3 pharmacy business-related goals that you are striving to improve upon in 2026
- Build a Staff Meeting Dashboard
- Communicate 1-2 ideas for team-based interventions and track your progress
- Incorporate useful AI tools when appropriate to design, enhance, or analyze goals

Questions?

Resources

- Flip the Pharmacy: Robust content library of clinic service transformation change packages, webinars, guides for non-pharmacist staff. https://www.flipthepharmacy.com/resources
- National Community Pharmacists Association. (2025). *2025 NCPA Digest*, sponsored by Cardinal Health. https://ncpa.org/newsroom/news-releases/2025/10/19/ncpa-releases-2025-digest-report
- Fein, A. J., & Drug Channels Institute. (2026). *The 2026 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers*. Drug Channels Institute. https://drugchannelsinstitute.com/products/industry_report/pharmacy/