

Pharmacy Inventory System - User Requirements Document

Document Overview

Project Name: Pharmacy Inventory Management System

Document Version: 1.0

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Purpose: This document outlines the requirements for a comprehensive pharmacy inventory management system designed to streamline operations, ensure medication safety, and improve overall efficiency.

1. Executive Summary

The Pharmacy Inventory System is designed to help pharmacies manage their medication stock efficiently, track expiration dates, process prescriptions, and maintain accurate records. The system will reduce manual errors, prevent stockouts, and ensure compliance with pharmaceutical regulations.

2. User Roles

2.1 System Administrator

- Full system access and configuration
- User management and permissions
- System settings and reports generation

2.2 Pharmacist

- Prescription processing and verification
- Medication dispensing
- Inventory checking and ordering
- Patient consultation records

2.3 Pharmacy Technician

- Stock receiving and shelving
- Inventory counting and updates
- Basic prescription entry
- Supplier order management

2.4 Manager

- Analytics and reporting access
 - Financial overview
 - Staff performance monitoring
 - Inventory optimization decisions
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3. Core Functional Requirements

3.1 Inventory Management

Stock Tracking

- **Real-time inventory levels:** View current quantities of all medications
- **Low stock alerts:** Automatic notifications when items reach minimum threshold
- **Batch tracking:** Monitor multiple batches of the same medication separately
- **Location tracking:** Know exactly where each medication is stored in the pharmacy

Expiration Management

- **Expiry date tracking:** Record and monitor expiration dates for all items
- **Automatic alerts:** Receive warnings 90, 60, and 30 days before expiration
- **FEFO compliance:** First-Expiry-First-Out dispensing recommendations
- **Expired stock reports:** Identify and manage expired medications

Stock Adjustments

- **Receive new stock:** Record incoming inventory from suppliers
- **Returns processing:** Handle supplier returns and customer returns
- **Damage/waste recording:** Document damaged or wasted medications
- **Stock transfers:** Move inventory between locations or branches

3.2 Prescription Management

Prescription Processing

- **Digital prescription entry:** Enter prescription details electronically
- **Prescription scanning:** Upload and attach prescription images
- **Drug interaction checking:** Automatic warnings for potential drug interactions
- **Patient allergy alerts:** Flag medications that conflict with patient allergies
- **Dosage verification:** Ensure prescribed dosages are within safe limits

Dispensing

- **Medication dispensing:** Record all medications given to patients
- **Partial fills:** Handle situations where full prescription quantity isn't available
- **Refill tracking:** Monitor refill eligibility and remaining refills
- **Insurance verification:** Check coverage and copay amounts

3.3 Ordering & Procurement

Supplier Management

- **Supplier database:** Maintain information for all pharmacy suppliers
- **Pricing comparison:** Compare prices across different suppliers
- **Preferred supplier settings:** Set default suppliers for each medication
- **Order history:** Track all past orders and delivery performance

Automated Ordering

- **Automatic reorder points:** System suggests orders when stock is low
- **Order generation:** Create purchase orders directly in the system
- **Order tracking:** Monitor order status from placement to delivery
- **Delivery confirmation:** Record and verify received items against orders

3.4 Patient Management

Patient Records

- **Patient profiles:** Store patient information securely
- **Prescription history:** View complete medication history for each patient
- **Allergy records:** Maintain up-to-date allergy information
- **Insurance information:** Store and manage insurance details

Patient Services

- **Medication counseling notes:** Record pharmacist consultations
- **Refill reminders:** Notify patients when refills are due
- **Medication synchronization:** Coordinate multiple prescriptions for convenient pickup
- **Adherence tracking:** Monitor if patients are picking up medications on schedule

3.5 Reporting & Analytics

Operational Reports

- **Daily sales summary:** Revenue and transactions for each day
- **Inventory valuation:** Current value of all stock on hand
- **Fast-moving items:** Identify frequently dispensed medications
- **Slow-moving items:** Detect items that aren't selling well
- **Stock variance reports:** Identify discrepancies between system and physical counts

Compliance Reports

- **Controlled substance logs:** Track all Schedule II-V medications (narcotics)
- **Audit trail:** Complete history of all system activities
- **Expiry reports:** List of items approaching or past expiration
- **Loss/theft reporting:** Document and report missing inventory

Financial Reports

- **Profit margin analysis:** Understand profitability by medication
 - **Insurance reimbursement tracking:** Monitor payments from insurance companies
 - **Accounts receivable:** Track outstanding payments
 - **Supplier payment status:** Monitor what's owed to suppliers
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4. Non-Functional Requirements

4.1 Performance

- System should respond to user actions within 2 seconds
- Support at least 50 concurrent users without slowdown
- Handle minimum of 1,000 prescriptions per day
- Database should maintain 7 years of historical data

4.2 Security

- **User authentication:** Secure login with username and password
- **Role-based access:** Users only see features relevant to their role
- **Data encryption:** All sensitive data encrypted at rest and in transit
- **Audit logging:** Track all user activities for compliance
- **Automatic logout:** Sessions expire after 15 minutes of inactivity
- **Backup systems:** Daily automated backups with off-site storage

4.3 Compliance

- **HIPAA compliance:** Meet all requirements for patient data protection
- **FDA regulations:** Adhere to pharmaceutical tracking requirements
- **State board requirements:** Comply with local pharmacy regulations
- **DEA compliance:** Meet controlled substance tracking requirements

4.4 Usability

- **Intuitive interface:** Easy to learn with minimal training
- **Mobile responsive:** Accessible from tablets and mobile devices
- **Search functionality:** Quick search for medications, patients, and prescriptions
- **Barcode scanning:** Support for medication and patient barcode scanning
- **Help documentation:** Built-in help guides and tooltips

4.5 Reliability

- **99.9% uptime:** System available 24/7 with minimal downtime
 - **Data backup:** Automatic backups every 24 hours
 - **Disaster recovery:** Ability to restore system within 4 hours
 - **Error handling:** Clear error messages and graceful failure handling
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5. Key Features Breakdown

Priority 1 (Must Have)

- ✓ Basic inventory tracking and management
- ✓ Prescription entry and processing
- ✓ Patient database
- ✓ Low stock alerts
- ✓ Expiration date tracking
- ✓ Basic reporting (sales, inventory)
- ✓ User authentication and role management
- ✓ Supplier management and ordering

Priority 2 (Should Have)

- ✓ Drug interaction checking
- ✓ Automated reorder suggestions
- ✓ Barcode scanning integration
- ✓ Refill reminders
- ✓ Insurance verification
- ✓ Advanced analytics and reporting
- ✓ Mobile access
- ✓ Multi-location support

Priority 3 (Nice to Have)

- ✓ Customer loyalty program
 - ✓ SMS/email notifications to patients
 - ✓ Integration with doctor systems
 - ✓ Delivery management
 - ✓ Online prescription refill portal
 - ✓ Inventory forecasting using AI
 - ✓ E-prescription integration
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6. User Workflows

6.1 Daily Opening Routine

1. Log into system

2. Review overnight alerts (low stock, expirations)
3. Check pending prescriptions
4. Review scheduled deliveries for the day
5. Generate daily sales report from previous day

6.2 Processing a New Prescription

1. Receive prescription from patient
2. Enter prescription details into system
3. System checks for:
 - Patient allergies
 - Drug interactions
 - Insurance coverage
4. Verify medication availability in stock
5. Prepare medication and label
6. Pharmacist verification
7. Dispense to patient
8. System updates inventory automatically

6.3 Receiving Supplier Delivery

1. Receive delivery from supplier
2. Match delivery to purchase order in system
3. Scan or enter each item received
4. Verify quantities and expiration dates
5. Record any discrepancies
6. System updates inventory levels
7. Store medications in designated locations

6.4 Monthly Inventory Count

1. Generate inventory count sheets
 2. Physically count medications
 3. Enter counts into system
 4. System identifies variances
 5. Investigate and document discrepancies
 6. Adjust inventory as needed
 7. Generate variance report for management
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7. Integration Requirements

7.1 External Systems

- **Insurance verification services:** Real-time benefit checks
- **Wholesale supplier systems:** Electronic order placement
- **E-prescription systems:** Receive electronic prescriptions
- **Point of Sale (POS):** Integration with cash register systems
- **Accounting software:** Export financial data

7.2 Hardware Compatibility

- **Barcode scanners:** For medication and patient ID scanning
- **Label printers:** For prescription label printing
- **Receipt printers:** For patient receipts

- **Tablet devices:** For inventory counting
 - **Security cameras:** For controlled substance areas
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8. Training & Support Requirements

8.1 Training

- Initial on-site training for all users (8-16 hours)
- Role-specific training materials
- Video tutorials for common tasks
- Regular refresher training sessions
- Train-the-trainer program for larger organizations

8.2 Support

- **Technical support:** Available during business hours (phone/email)
 - **Emergency support:** 24/7 for critical issues
 - **Software updates:** Regular updates with new features and fixes
 - **Documentation:** Comprehensive user manuals and guides
 - **Online knowledge base:** Searchable help articles
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9. Implementation Timeline

Phase 1: Setup & Configuration (Weeks 1-2)

- System installation and configuration
- User account creation
- Initial data migration (medications, patients, suppliers)
- Hardware setup (scanners, printers)

Phase 2: Training (Weeks 3-4)

- Staff training sessions
- Parallel operation with existing system
- Testing and troubleshooting

Phase 3: Go-Live (Week 5)

- Full system activation
- Intensive support during first week
- Daily check-ins with pharmacy staff

Phase 4: Optimization (Weeks 6-12)

- Fine-tune workflows
 - Address any issues
 - Advanced feature training
 - System performance review
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10. Success Metrics

The system will be considered successful when it achieves:

- **Reduced stockouts:** Less than 2% of prescriptions delayed due to stock issues

- **Improved inventory accuracy:** 98%+ accuracy in inventory counts
 - **Faster prescription processing:** Average processing time under 10 minutes
 - **Reduced expired waste:** 50% reduction in medication waste due to expiration
 - **Better compliance:** Zero compliance violations related to record-keeping
 - **User satisfaction:** 90%+ satisfaction rating from pharmacy staff
 - **Cost savings:** 15% reduction in inventory carrying costs
 - **Time savings:** 10+ hours per week saved on manual inventory tasks
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11. Questions & Next Steps

For Discussion

1. How many pharmacy locations will use this system?
2. What is your current prescription volume per day?
3. Do you have existing data that needs to be migrated?
4. What is your preferred timeline for implementation?
5. Are there specific supplier systems you need to integrate with?
6. Do you currently use any pharmacy management software?

Next Steps

1. Review and approve this requirements document
 2. Schedule detailed requirement gathering sessions
 3. Develop system design and architecture
 4. Create project timeline and budget
 5. Begin development and customization
 6. Plan training and go-live strategy
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12. Glossary

FEFO: First-Expiry-First-Out - Dispensing method prioritizing items that expire soonest

HIPAA: Health Insurance Portability and Accountability Act - US privacy law

DEA: Drug Enforcement Administration - Regulates controlled substances

NDC: National Drug Code - Unique identifier for medications

POS: Point of Sale - Cash register system

Formulary: List of medications covered by an insurance plan

Prior Authorization: Insurance approval required before dispensing certain medications

AWP: Average Wholesale Price - Benchmark for medication pricing

Document Approval

Role	Name	Signature	Date
Project Sponsor			
Pharmacy Manager			
System Administrator			
Lead Pharmacist			

End of Document

For questions or clarifications about this requirements document, please contact the project team.