

Pharmacist Integration and Interoperable Health Records

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APhA

American Pharmacists Association

For Every Pharmacist. For All of Pharmacy.

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Executive Summary

Electronic health records (EHRs) have revolutionized healthcare by digitizing patient information, but their true potential remains unrealized due to limited interoperability, which refers to the exchange and use of health information across systems and providers. Given the persistent challenges faced by the U.S. healthcare system – including rising demand from an aging population, limited resources, expanding workloads, and provider shortages – innovation and efficiency are key to improve patient care and ensure long-term sustainability.

Enhanced integration of the pharmacist into the healthcare system offers a powerful solution. With advanced training in medication management and accessibility within communities, pharmacists can expand the reach of primary care services, improve outcomes, reduce costs, and alleviate strain on physicians and nurses. ***However, their effectiveness is limited without access to an interoperable EHR system.***

This white paper, authored by the American Pharmacists Association (APhA), explores the critical importance of interoperable EHR systems in enhancing patient outcomes, streamlining care coordination, reducing costs, and driving innovation. It examines the challenges impeding progress and the policy frameworks designed to overcome them. Through case studies and data in the U.S. and internationally, we demonstrate the value of an interoperable EHR via deepened pharmacist integration. Finally, we call for establishing national standards, developing a milestone-based strategy, and launching pilot projects to achieve EHR interoperability for improved patient care and reduced healthcare costs.

Introduction

Interoperability in healthcare refers to the ability of different EHR systems and health information technology (IT) platforms to exchange, interpret, and use patient data seamlessly across organizational boundaries. In a fragmented healthcare landscape, interoperability is not a luxury – it is a necessity for delivering safe, efficient, and patient-centered care. Through case studies, environmental context, and actionable recommendations, APhA presents a strategy to improve quality, access, and cost-effectiveness of healthcare delivery.

Problem: Fragmented Healthcare Information and Access to Providers Results in Inadequate Patient Care.

The U.S. healthcare system struggles to keep pace with demand. Limited resources and expanding patient needs necessitate efficiency and innovation. Without intervention, challenges will continue to compromise access, outcomes, and costs. By 2037, the U.S. is projected to face a shortage of over 87,000 primary care physicians, especially in rural areas¹. Pharmacists, accessible to 90% of Americans within five miles², are well-positioned to fill this gap through direct patient care services.

Interoperability – the seamless exchange and use of health information across systems and providers – is foundational to a modern, patient-centric healthcare ecosystem. Despite widespread EHR adoption, siloed data and limited access for key stakeholders, especially pharmacists, compromise care quality and increase costs. As frontline providers, pharmacists must be fully integrated into the health information exchange to ensure continuity of care and optimize patient outcomes.

Patient Impact

David is 83 and lives on a farm in rural Illinois. He has multiple serious chronic conditions and lives 60 minutes away from his medical team. The pharmacy in his local community is the only healthcare access in town, and the pharmacist is authorized by Illinois law to provide care services to assist David with living a healthy life. However, the pharmacist does not have access to David's medical record and when David has issues with his blood pressure on the weekend, the pharmacist has limited knowledge of his medical history to assist David. This results in him making an unnecessary trip to the hospital an hour away.

All David needed was a slight change in the dose of his hypertension medicine and counseling on sodium intake reduction. The pharmacist could have saved Medicare thousands of dollars if there were an interoperable health record and payment to the pharmacist.



Key Gaps

Patients have limited and inequitable access to primary care services.



Patients face barriers to accessing care due to geography, cost, and provider shortages, especially in rural and underserved communities. However, there are 15.1% more pharmacy locations within low-income communities than physician practices and offer 95.7% more operating hours than physician practices sites³. Patients interact with their pharmacists 12 to 50-times more often than their primary care provider^{4,5}.

Pharmacists currently have limited access to patient EHR data, which significantly disrupts and delays their ability to provide care; nevertheless, they continue to contribute meaningfully to patient medication management and via provision of primary care services, such as prescribing certain medications, providing health counseling, administering immunizations, among other services.

Fragmented information and records systems complicate administration of healthcare.

Due to fragmented healthcare records systems, clinicians often do not have access to complete medical histories, which increases the risk of diagnostic errors and medication mismanagement. Studies show that 43% of medications listed in EHRs are inaccurate, with 29% discontinued and 14% changed⁶.



Despite their central role in patient care, pharmacists often lack access to patient records. Incomplete medication records and lack of access to pharmacy data increase the risk of medication errors and adverse drug events.

Medication mismanagement is risky & expensive.



Medication errors, inappropriate prescribing, and lack of monitoring remain leading causes of preventable harm and cost. Interoperable systems reduce adverse drug events by providing real-time access to prescriptions and allergies.

Cost of managing medication-related problems is nearly double the amount spent on prescription drugs:

In the United States, over \$528 billion is wasted and 275,000 lives are lost each year due to non-optimized medication use⁷. For every \$1.00 spent on drug therapy, we spend an additional \$1.55 to address the problems associated with non-optimized drug therapy⁸.

A study commissioned by the APhA (to be published in early 2026) found that the cost of medication-related problems in America is over \$500 million and may exceed \$1 trillion. There are currently no incentives within the system to pay pharmacists to prevent, identify & resolve drug-related problems.

Patients with chronic diseases have inadequate or irregular access to preventative health services.

Conditions such as diabetes, hypertension, and asthma often go undertreated or poorly controlled. Many patients do not receive guideline-recommended treatments, screenings, or counseling. Pharmacists interact with patients more frequently than primary care providers – up to fifty times per year for chronic care patients, offering a regular interface for ongoing disease management and preventive care services⁵. Since 90% of health care expenditures in America cover patients with chronic and mental health conditions⁹, interventions that prevent and manage these diseases can have significant health and economic benefits.

**Care transitions can compromise care quality when providers lack access to complete, up-to-date patient information.**

Limited follow-up, fragmented care, and communication failures between providers and other care settings often lead to disease exacerbation, rehospitalizations, and poorer outcomes. Utilizing the established patient-pharmacist relationship to bridge this gap during transition of services can improve outcomes and reduce costs.

Community Impact

Project IMPACT: Diabetes is a patient-centered, team-based care national diabetes self-management program. Developed by the APhA Foundation, the initiative is specifically designed to improve the health of underserved populations with limited access to quality care.



One of the 25 participating communities, the Daily Planet's diabetes outreach program is a lifeline for Richmond's homeless community, offering compassionate, interdisciplinary care including pharmacists that meets patients where they are – physically, emotionally, and socially. Through a powerful partnership with Virginia Commonwealth University School of Pharmacy, the program breaks down barriers like transportation, food insecurity, and trauma, empowering patients to take control of their health with dignity and support. Patients feel seen, valued, and capable, as the care team walks alongside them, not just treating diabetes, but restoring hope.

Solution: Implementing an Interoperable Electronic Health Records System Can Address Major Barriers in Patient Care and Improve Outcomes.

In response to expanding workloads, limited resources, and aging communities, governments across the globe are implementing interoperable EHRs and integrating pharmacists into the healthcare system, especially at the primary care level. Two major requirements predicate success in this process. First, there must be **federal recognition of pharmacists as providers within Medicare Part B**, which is essential for reimbursement and data access parity. Second, **an interoperable EHR with standardized data elements** (such as those provided under the United States Core Data for Interoperability¹⁰) must be developed and deployed. Only through this foundation can the American health system access the cost savings and improved patient care and outcomes ensured by expanded pharmacist integration into healthcare team.

Case Studies: Success Stories

In **Canada**, pharmacist integration focuses on expanding their role in primary and other healthcare teams to include prescribing, ordering & interpreting lab results, and medication management.



System-wide benefits include improved patient outcomes, increased access to care, reduced healthcare costs, enhanced patient experience, reduced burnout of practitioners. However, varied regulations within each province lead to inconsistent implementation across the country, and the pharmacist funding and remuneration models need adapted to change in scope.

Key to the success of this initiative is the adoption of national data standards, ensuring interoperability across healthcare systems and facilitating the secure exchange of health information.

In the **United Kingdom**, the National Health Service (NHS) Pharmacy Integration Programme was established in 2016 to “accelerate the integration” of pharmacy professionals and services, with the intention of utilizing the capabilities of the community pharmacy workforce within the primary care setting. Extensive funding (£640M) was designated to connect records to support this initiative.





‘Advancing Interoperable Nationwide Health Information Exchange For The Public Good.’ **The Sequoia Project**¹¹ is a nonprofit, public-private collaborative that advocates for secure, interoperable nationwide health information exchange. Its mission is to ensure the right health information is accessible at the right place and time to improve the health and welfare of all Americans.

MassHIway is Massachusetts’ statewide Health Information Exchange (HIE), designed to securely transmit health data among healthcare providers, hospitals, and other entities regardless of their technology systems or affiliations.



In **Tennessee**, Public Chapter 82 (enacted in 2017) allowed pharmacists to be credentialed and reimbursed as medical providers in commercial health plan medical provider networks. Recently, law expanded pharmacist scope to permit them to independently issue prescriptions or medical orders for a select group of medication classes and disease states^{12,13}.

In **Iowa**, the Iowa Pharmacy Practice Act updated the state’s pharmacy practice act and established standard of care regulatory framework, which aligned pharmacists with other providers. Under this framework, pharmacists are defined as practitioners and may prescribe and provide therapeutic substitution¹⁴.



Step 1. Recognition of pharmacists as providers.

In the Medicare program, pharmacists are not covered as qualified health care professionals (QHPs) because pharmacists’ patient care services are not included in the service definitions of the Social Security Act (SSA). This omission prevents pharmacists from being able to bill for services directly through Medicare Part B, inhibits physicians and other QHPs from billing for pharmacists’ services under incident to physician arrangements at high enough levels to sustain a pharmacist, and precludes pharmacists from receiving attribution for their contributions to closing quality measures in Medicare’s value-based programs.

Therefore, pharmacists should be formally recognized as Medicare Part B providers to be fully integrated into accountable care organizations and value-based models and recognized as primary care providers¹⁵. While some states may authorize pharmacists in such fashions for the below list, broad adoption of a standard of care regulatory model is needed at the state level to authorize pharmacists to:



- Access and contribute to interoperable EHRs to coordinate care with other providers.
- Order and interpret lab tests, both CLIA and non-CLIA waived tests.
- Provide referrals to other health services.
- Document care in the patient's medical record.
- Prescribe medications independently or in collaboration.

At every level of care, integrating pharmacists can improve patient outcomes and reduce healthcare costs by following the steps of the Joint Commission of Pharmacy Practitioners (JCPP) Pharmacists' Patient Care Process¹⁶. Federal recognition of a Medicare Part B provider is key in facilitating Step 2, and in ensuring coverage of pharmacist-delivered services.

Pharmacists provide routine care, manage chronic conditions, administer therapies, prescribe certain medications, and triage patients, extending the reach of the primary care workforce.



Pharmacists, often located in community settings, provide a first point of contact, helping to close disparities in access to medications and pharmacist-delivered clinical services.

As medication experts, pharmacists can review prescriptions, reconcile medications during care transitions, and adjust therapies to optimize effectiveness and safety.



Pharmacists manage medication regimens, monitor lab values, make changes to therapies based on lab values, counsel patients, and provide continuous support to improve disease control and reduce complications.

With access to interoperable health records, pharmacists can ensure **at scale** continuity of medication therapy, reduction of duplicate therapies, deprescription of unnecessary medications, and coordination of care across providers. Pharmacists are ideal to absorb medication-related tasks, easing workload pressure and allowing other clinicians to focus on complex cases.



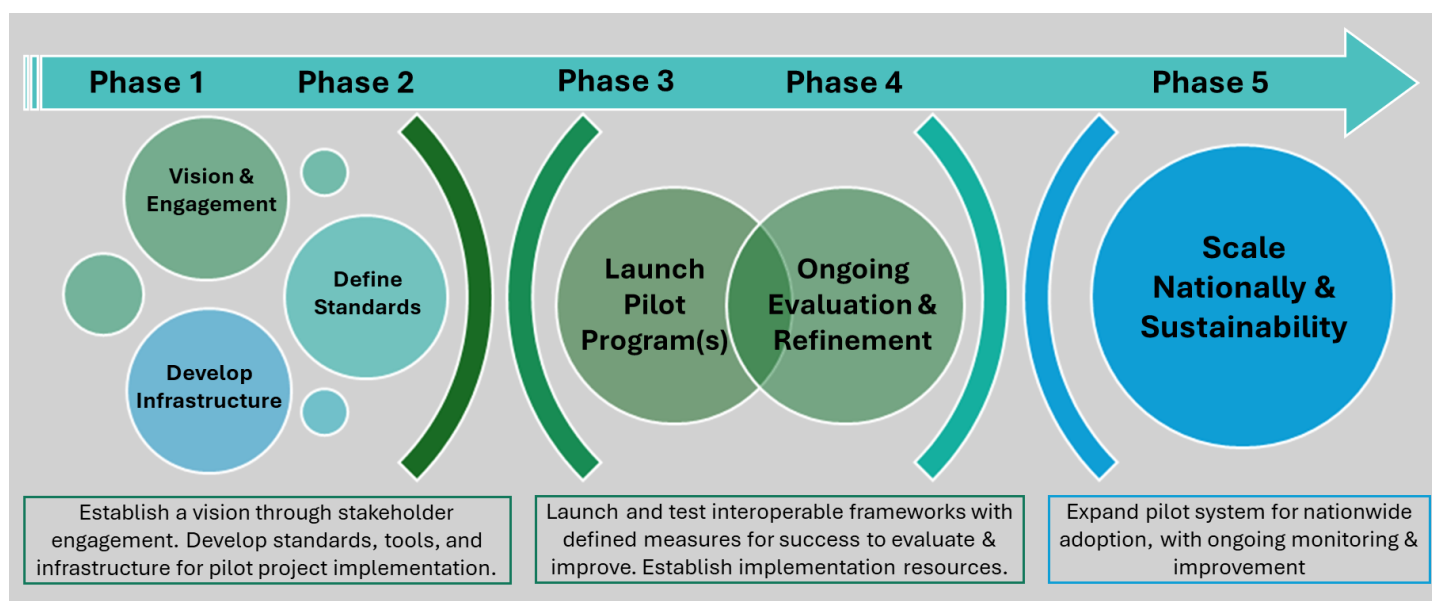
NOTE: While pharmacies do not generally have access to patient medical records, HIPAA (Health Insurance Portability and Accountability Act) and other privacy regulations do *not* prevent the sharing of protected health information (PHI) between health systems and pharmacies.

Step 2. Establish a secure, mobile, patient-centric, interoperable EHR system.

Success herein depends on pharmacists having access to interoperable electronic health records, which act as a secure and consolidated health record that facilitates authorized sharing of health data to care providers. **Without shared, comprehensive data, pharmacists cannot fully optimize therapy or coordinate with other providers. Without this system, the full cost-savings of implementing the pharmacist as a primary care team member cannot be realized.**

EHR interoperability benefits all patients and care team members by enabling seamless access to critical health information. It not only enhances pharmacist integration but also empowers physicians to deliver optimal care – reducing inappropriate or duplicative prescribing, lowering costs, and minimizing the risk of adverse drug events caused by incomplete medication histories.

To establish a secure, patient-centric, interoperable EHR system that includes pharmacies and pharmacists as integral care providers, improving care coordination, data accuracy, and health outcomes, we propose the following phased plan:



Phase 1: Strategic Alignment and Stakeholder Engagement**1.1 Define Vision and Objectives**

- Align with CMS's Health Technology Ecosystem goals; prioritize pharmacist data and access.

1.2 Engage Key Stakeholders

- Include pharmacists, pharmacy chains, EHR vendors, payers, regulators (CMS, ONC), and patient advocacy groups. Establish a multi-sector advisory council.

1.3 Policy Advocacy

- Support federal policy to recognize pharmacists as healthcare providers for information-blocking and reimbursement purposes.

Phase 2: Standards and Infrastructure Development**2.1 Adopt and Align Standards**

- Collaborate with NCPDP and HL7 to create and implement an “interoperability dictionary” for pharmacy-EHR integration.

2.2 Define Minimum Data Set

- Establish core data elements for exchange (e.g., allergies, care plans, medication lists).
- Pilot test data sets with pharmacy and provider networks.

2.3 Upgrade Pharmacy Systems

- Modernize pharmacy management systems to support bi-directional data exchange.
- Integrate AI tools for refill management, adherence tracking, and inventory optimization.

Phase 3: Pilot Programs and Testing**3.1 Launch Interoperability Pilots**

- Select early adopter sites (e.g., community pharmacies, hospitals, long-term care facilities, specialty pharmacies, community health centers, physician offices, ambulatory clinics, managed care organizations, hospice settings, and government facilities).
- Test frameworks for data exchange, reimbursement, and workflow integration.

3.2 Evaluate and Refine

- Measure success using metrics like medication list accuracy, care coordination efficiency, and patient outcomes.
- Refine standards and workflows based on pilot feedback.

Phase 4: Education and Implementation Support**4.1 Develop Training and Resources**

- Create implementation guides, webinars, and toolkits for pharmacies and providers.
- Educate patients and caregivers on accessing and managing their health data.

4.2 Promote Use of Information Blocking Portal

- Encourage reporting of data access issues by providers and patients.
- Share educational materials through pharmacy associations (e.g., APhA).

Phase 5: Scale and Sustain

5.1 Expand Nationwide

- Roll out successful pilot models across states and health systems.
- Incentivize adoption through CMS reimbursement models and grants.

5.2 Monitor and Improve

- Continuously assess interoperability performance.
- Update standards and policies to reflect evolving care models and technologies.

Barriers & Enablers

- Interoperability challenges include:
 - **Low Adoption:** Despite available technology, pharmacies lack incentives to invest.
 - **Standardization Gaps:** Inconsistent documentation requirements across payers.
 - **EHR Integration Barriers:** Difficulty accessing and using exchanged data.
 - **Regulatory Burden:** Compliance demands divert resources from innovation.
 - **Technical Barriers & Data Standardization:** Diverse formats and terminologies hinder seamless exchange.
 - **Legacy Systems:** Older platforms lack compatibility with modern standards.
 - **Vendor Gatekeeping:** Proprietary systems and information blocking practices limit data sharing.
 - **Reluctance to Share Data:** Competitive concerns among providers and vendors slow collaboration.
 - **High Implementation Costs:** Upgrading systems and training staff require significant investment.
- Best practices for interoperability enabling include:
 - **Adoption of Universal Standards:** Implement HL7, FHIR, and USCDI to ensure consistent data formatting and exchange.
 - **Invest in Modern Infrastructure:** Upgrade legacy systems and integrate AI-driven tools for data normalization and workflow automation.
 - **Foster Collaboration:** Encourage cross-sector partnerships among providers, vendors, and regulators to align incentives and share best practices.
- National Frameworks supporting integration:
 - **TEFCA:** Aims to create a unified nationwide health information exchange.
 - **CMS Aligned Networks:** Encourage voluntary adherence to interoperability standards among providers and payers.

Environmental Awareness: Pharmacist Integration & an Interoperable EHR Aligns with Recent Trump Administration Executive Orders and MAHA Initiatives

Pharmacist integration and interoperable health records directly advance the **Make America Healthy Again (MAHA)** agenda, which emphasizes strengthening access to care, lowering healthcare costs, and empowering patients. MAHA principles prioritize interoperable systems that are **portable, patient-controlled, and secure**, ensuring individuals can manage and share their health information across providers. Expanding pharmacists' roles supports these priorities by improving access to timely, community-based care, reducing strain on overburdened providers, and driving efficiency in medication management.

When pharmacists are integrated as providers and granted access to interoperable records, the healthcare system moves closer to MAHA's vision: a modern, patient-centered, and sustainable model that enhances outcomes while delivering better value for every healthcare dollar.

Conclusion: An interoperable EHR in community-based pharmacy practices throughout the U.S. will improve patient outcomes, streamline services, and reduce healthcare costs through an expanded role of pharmacist contributions to the healthcare team.

Interoperable EHR systems are foundational to the future of healthcare. They empower the patient care team with timely and accurate data, improve patient safety, and enable coordinated care across the continuum. While challenges persist, the convergence of policy, technology, and stakeholder commitment offers a clear path forward. The time to act is now – interoperability is not just a technical goal, but an ethical mandate for better healthcare.

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