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# Pharmacy Interoperability: A Comprehensive Assessment of the Current Landscape

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## Abstract

The NCPDP Foundation funded this study with the goal of clearly defining interoperability challenges and building recommendations to address them, both for the industry as a whole and for the development or enhancement of NCPDP Standards. This white paper reflects research gathered through industry stakeholder interviews on the current state of pharmacy interoperability. One central finding was the criticality of pharmacy representation in interoperability initiatives happening throughout the healthcare industry—making sure this sector’s unique needs and contributions are addressed. The study defines ten key factors impacting the future of pharmacy interoperability including interest in newer technologies like Fast Healthcare Interoperability Resources (FHIR), as well as challenges such as the need for reimbursement models and financial incentives to support pharmacies providing clinical services. It also proposes nine recommendations for the industry to consider, with action steps and expected outcomes.

## Background

Interoperability enables the secure exchange of electronic health information throughout a healthcare team to allow for complete access, exchange, and use of all electronically accessible health information for authorized use under applicable State and Federal law. This improves patient care through access to clinical health data for both individuals and their care team, including the pharmacist (HealthIT.gov, n.d.). Pharmacy is a crucial area for interoperability inclusion to improve patient outcomes, improve patient coordination, and reduce care and medication costs.

## Research Objective

Define interoperability challenges and build recommendations to address them.

## Research Findings

Researchers interviewed key industry stakeholders including representatives from specialty, community, and chain pharmacies, technology vendors, Health Information Exchanges, and Qualified Health Information Networks (Point-of-Care Partners, n.d.).

### Interoperability: Insights from Current Leaders

#### Lack of Adoption

Technology is available for clinical data sharing; however, pharmacy adoption is low. The most cited barriers to adoption were the lack of reimbursement models and business incentives.

#### Lack of Standardization

Clinical documentation requirements lack standardization across different health plans, complicating efforts to integrate clinical services into the pharmacy's existing workflow.

#### Payment Model Complexities

Pharmacy payment models have been growing in complexity leading to the need for more sophisticated systems, however, current pharmacy management systems struggle to accommodate for the new models and hinder the pharmacy's ability to participate in value-based care models.

## **Standards Collaborations**

Many interviewed stakeholders cited a need for increased collaboration among standards development organizations such as NCPDP and HL7.

One suggestion brought forth by interviewees included the creation of a “interoperability dictionary” between the NCPDP and HL7 standards to ease the implementation of interoperable standards.

## **EHR Integration**

Pharmacies reported struggling to integrate their systems with EHRs and other healthcare information systems and highlighted the inability to effectively use the data when it is able to be exchanged.

## **Regulatory Pressures**

Pharmacy Management System vendors reported a heavy burden due to regulatory requirements diverting resources from a focus on interoperability features.

## **Current State of Clinical Data Exchange: Insights from Current Leaders**

While the technology exists to capture and share clinical data with or from pharmacies through standards developed by organizations like NCPDP, HL7, and X12, the actual exchange of data is limited due to several factors such as the lack of standardization, insufficient integration, lack of demand, and inadequate reimbursement models. Interviewees indicated:

- Pharmacies do not receive adequate financial incentives to invest in the technology needed for data sharing which was highlighted as a significant barrier to interoperability.
- A lack of end-to-end use of the Pharmacist eCare Plan (PeCP) is preventing pharmacist-captured data from being integrated into the patient’s EHR, creating a gap in the patient record and preventing seamless care coordination. Some interviewees reported utilizing the PeCP to secure reimbursement from health plans which is proving ineffective for both entities and compromising the intention of the PeCP.
- Incompleteness of data received by pharmacies was a significant challenge reported by interviewees, limiting the ability of pharmacies to engage in patient care and coordination.

- The relevance of pharmacist-contributed information is an area of ongoing debate in how medication data fits into the broader care continuum.

## Recommendations to Move Forward

Researchers developed nine recommendations to address the challenges identified through interviews with key industry stakeholders. Listed below is a focus on the recommendations where the National Council for Prescription Drug Programs (NCPDP) can make an impact.

### Recommendation 1: Develop a Dual-Path Strategy for Pharmacy Data Exchange

A method is needed to support the bi-directional exchange of healthcare data between the pharmacist, providers, payers, and other entities that are part of a patient's healthcare team. This can be achieved through promotion of existing standards, such as the aforementioned PeCP, integration of new technologies such as the HL7 Clinical Data Exchange, and through APIs.

Stakeholder collaboration throughout the industry is necessary to facilitate understanding of the unique needs, preferences, and requirements of each sector. This collaboration can also facilitate the development of solutions which can support those diverse needs for successful interoperability throughout the healthcare industry.

#### Targeted Recommendations

**Launch pilot program(s) to test and refine frameworks prior to full rollout.**

**Develop educational materials such as implementation guides, webinars, et cetera to foster understanding throughout the healthcare industry on clinical data exchange with pharmacists.**

## Recommendation 5: Define Minimum Data Set

A core set of data elements that should be exchanged between pharmacists and providers will push forward integrated interoperability for improved coordination of care. Pharmacist and provider collaboration is vital to ensuring the most critical data elements are captured, such as allergies, care plans, and medication lists.

### Targeted Recommendations

Collaboration with industry Standards Development Organizations like NCPDP and HL7 to develop standards to define how the core data elements should be structured and exchanged.

Launch pilot program(s) to test and refine data elements prior to full rollout to ensure the data exchanged is meaningful and actionable.

## NCPDP Integration

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### Disclosures

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The Grantee did not indicate if AI was utilized in the drafting and/or writing of the report provided to the NCPDP Foundation. This abridged results paper did not utilize AI.

As of the publication of this abridged report, and to the best knowledge of the NCPDP Foundation, the original report(s) generated by Point-of-Care Partners are [available online](#).

## References

HealthIT.gov. (n.d.). *Interoperability*. <https://www.healthit.gov/topic/interoperability>

Point-of-Care Partners. (n.d.). *Pharmacy interoperability: a comprehensive assessment of the current landscape*. <https://info.pocp.com/pharmacy-interoperability-whitepaper>