Pharmacist eCare Plan (PeCP) and Electronic Health Record (EHR) Integration:
A Proof-of-Concept Study on Health Information Interoperability

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Background

- Computerized pharmacy management systems lack the capability to communicate to prescribers[1]
- Communication between Electronic Health Record (EHR) became possible with standards such as Health Level Seven (HL7)[2,3]
- Pharmacy services advanced gained communication capabilities with EHR platforms through the introduction of the NCPDP SCRIPT standard, which facilitated the data transfer for electronic prescribing
- However, pharmacy remained isolated from other healthcare fields, lacking EHR exchange and bi-directional communication[4]

Objective

To report the implementation and feasibility of integration between pharmacy and medical (EHR) software applications by leveraging HL7 Fast Healthcare Interoperability Resources (FHIR) to facilitate bi-directional communication between the Pharmacist eCare Plan (PeCP) and the medical software.

Methods

Settings
Provider group and independent community pharmacy chain in East Tennessee
Phone and fax were previously used to communicate patient needs for transitions of care services
Intervention
Pharmacy and medical software were integrated leveraging HL7 FHIR to facilitate the bi-directional connection between the HL7/NCPDP Pharmacist eCare Plan (PeCP) and the EHR platform
Measures and Outcomes
RE-AIM and CFIR frameworks were used to report impact of interventions, factors influencing implementation, and the associated barriers and facilitators

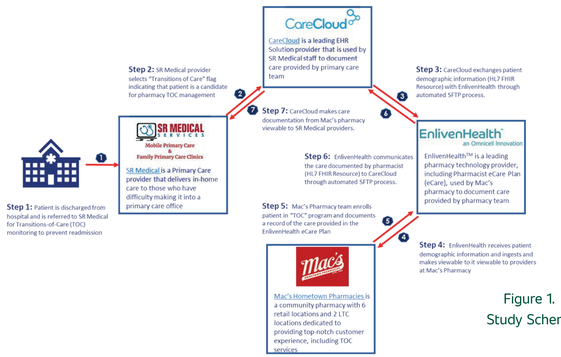

Figure 1.
Study Scheme

Integration of pharmacy and medical software is feasible across community pharmacy and medical settings, allowing bidirectional communication and interoperability.

Critical Facilitators:

- Automated referral process based on qualifying TOC candidates (by CPT code and pharmacy attribution)
- Bi-directional communication enabled communication between each providers' native software system
- Digital communication and team-based care increases referrals
- A clearly defined champion for each stakeholder group will create a shared value story, ensuring prioritization from all parties
- Alerts and notifications necessary to nudge engagement in patient care queues

Results

- Transition of Care CPT codes were used to electronically identify 36 Transition of Care Patients eligible for the PeCP/EHR integration using the process highlighted in the diagram below
- System integration demonstrated how automation can improve patient selection and drive bidirectional communication
- Integration was possible without disrupting workflows in either setting

Barriers/Facilitators Uncovered by the Project:

1. Clear value proposition necessary for EHR software firm engagement in software integration buildout, at beginning and throughout project
2. Maintaining an EHR vendor champion, identifying new champions during periods of turnover
3. Consistent communication is vital, but challenging across different organizations and time zones
4. Anticipating software vendor compliance and legal needs ahead of the project launch

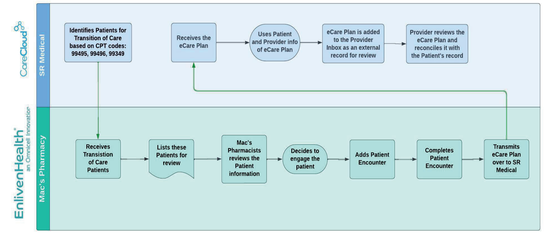

Figure 2.
Integration
Workflow

Conclusions

- To authors knowledge, first study to show the integration of pharmacy and medical software using the PeCP standard and FHIR to communicate with a disparate EHR platform
- Several barriers and facilitators were uncovered during software integration implementation
- Future projects can leverage these findings to develop an implementation strategy to facilitate spread and scale

References

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Disclosure

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