



Use Case Scenario Summary

Use Case Scenario Name:	Discharge Medication Reconciliation
Use Case to Which Scenario Belongs	Medication Reconciliation
Sponsor:	Blue Cross Blue Shield of Michigan (Pharmacy Services)
Date:	March 6, 2019

Executive Summary

This brief section highlights the purpose for the use case scenario and its value. The executive summary gives a description of the use case's importance while highlighting expected positive impact.

When a patient's medications change it is critically important to check the patient's medication list to be sure there are no problems with new, different or missing medicines. "Medication reconciliation" is the detailed process of checking the accuracy of a patient's medications, particularly when those medications have changed. Finding and correcting medication discrepancies helps avoid errors such as omissions, duplications, dosing errors or negative drug interactions. Regular confirmation of a patient's medications can also help confirm the patient is correctly following a treatment plan.

Medication reconciliation becomes critical when a patient moves from one care setting to another, such as being admitted to or discharged from a hospital. These "transitions of care" very commonly involve prescription of new medications which may interact negatively with a patient's existing medications.

Coordinating and sharing a patient's medication information in real-time has many benefits, both for patients and their healthcare providers. Better, faster coordination can minimize the possibility of adverse drug events for patients and maximize cost benefits for providers.

Purpose of Use Case Scenario: The Discharge Medication Reconciliation use case scenario helps healthcare providers share patient medication information at time of discharge with other care team members and organizations, including physicians, practices, pharmacies, hospitals, and transitional facilities such as outpatient and skilled nursing facilities.

Overview

This overview goes into more details about the use case.

The medication reconciliation process includes a comparison of existing and previous medication regimens and should occur at:

- Every transition of care in which new medications are ordered
- When existing orders are rewritten or adjusted
- When patients add nonprescription medications to their self-care

Several factors create difficulty for healthcare providers to manage patients' medications and improve safety. These factors include patients who don't know medication details (e.g. name, dose and frequency), patients who receive care from multiple healthcare providers in different locations, and a lack of standards for sharing medication information between providers.

- Approximately 1.5 million preventable adverse drug events occur annually as a result of medication errors at a cost of more than \$3 billion per year¹
- Approximately half of all hospital-related medication errors and 20% of all adverse drug events have been attributed to poor communication at transitions of care²
- The average hospitalized patient is subject to at least one medication error per day³
- ADEs account for 2.5% of estimated emergency department visits for all unintentional injuries and 6.7% of those visits lead to hospitalization⁴

Note Related Use Case Requirements: Organizations entering into the Medication Reconciliation use case should simultaneously enter the Active Care Relationship Service and Health Directory use cases. Each of these use cases align to support Medication Reconciliation. The Discharge Medication Reconciliation use case scenario leverages the Active Care Relationship Service and Health Directory to notify the appropriate providers when there are changes to a consumer's medication status.

¹ "Drugs," *U.S Food & Drug Administration*, last accessed on November 3, 2016, <http://www.fda.gov/Drugs/DrugSafety/ucm188760.htm>

² "Reconcile Medications at all Transition Points," *Institute for Healthcare Improvement*, last accessed on November 3, 2016, <http://www.ihl.org/resources/Pages/Changes/ReconcileMedicationsatAllTransitionPoints.aspx>

³ Jane Barnsteiner, "Chapter 38: Medication Reconciliation," in *Patient Safety and Quality: An Evidence-Based Handbook for Nurses* (Rockville, MD: Agency for Healthcare Research and Quality, 2008) <https://www.ncbi.nlm.nih.gov/books/NBK2648/>

⁴ Daniel S. Budnitz, M.D., et al., "National Surveillance of Emergency Department Visits for Outpatient Adverse Drug Events," *JAMA* 15 (October 2006), last accessed on November 3, 2016, <https://www.ncbi.nlm.nih.gov/pubmed/17047216>

Persona Story

To explain this use case, this section follows a persona example from start to finish.

Viola Campbell is the 60-year-old mother of Jessica Campbell and the proud grandmother of two twin girls.

Viola was diagnosed with epilepsy in her late teens. While Viola has struggled most of her life to manage her condition with the help of various clinicians and specialists, she's never felt like her care was out of her control.



When Viola turned 50 she started to notice some decline in her ability to participate in daily activities. Soon after, she was diagnosed with glaucoma and chronic obstructive pulmonary disease.

Viola felt she was managing her conditions well until she fainted and hit her head one afternoon while her daughter Jessica was away at work. Confused and panicking, Viola called emergency services who rushed her to the hospital. Viola was still dizzy from her earlier fall and couldn't describe her medications to medical personnel in the emergency room.

In the past, it would have been very difficult for emergency providers to deliver the appropriately informed care for Viola without knowing the medications she was taking. Luckily, the hospital where Viola was admitted participated in the Medication Reconciliation use case.

Immediately after she was admitted, the hospital sent a message to Viola's team of care providers requesting any information they had on Viola's conditions and medications. In a matter of minutes, emergency personnel received responses from Viola's providers and learned that a specialist Viola recently started seeing had prescribed a medication that was bad for patients with glaucoma. This medication put her more at risk for hypertension-related symptoms, resulting in her accident.

Having access to a compiled list of Viola's current medications helped the hospital staff narrow the cause of her accident and then reconcile her prescriptions so the same oversight would not happen again. Viola was switched to medications that manage all three of her conditions with minimal risk of adverse reactions. **When Viola was discharged, the hospital sent an updated list of her medications to her physicians and all of her other care team members to make sure everyone was on the same page and current with Viola's medication list.**

Viola feels better knowing her doctors are working together to ensure her safety and well-being by coordinating her care. Going to an emergency department is never an ideal scenario, but Viola is grateful that her emergency providers were well-coordinated and well-equipped with the tools to recognize a risky oversight in her care and to reconcile her medications.

Diagram

This diagram shows the information flow for this use case.

Medication information at discharge for this use case follows this path:

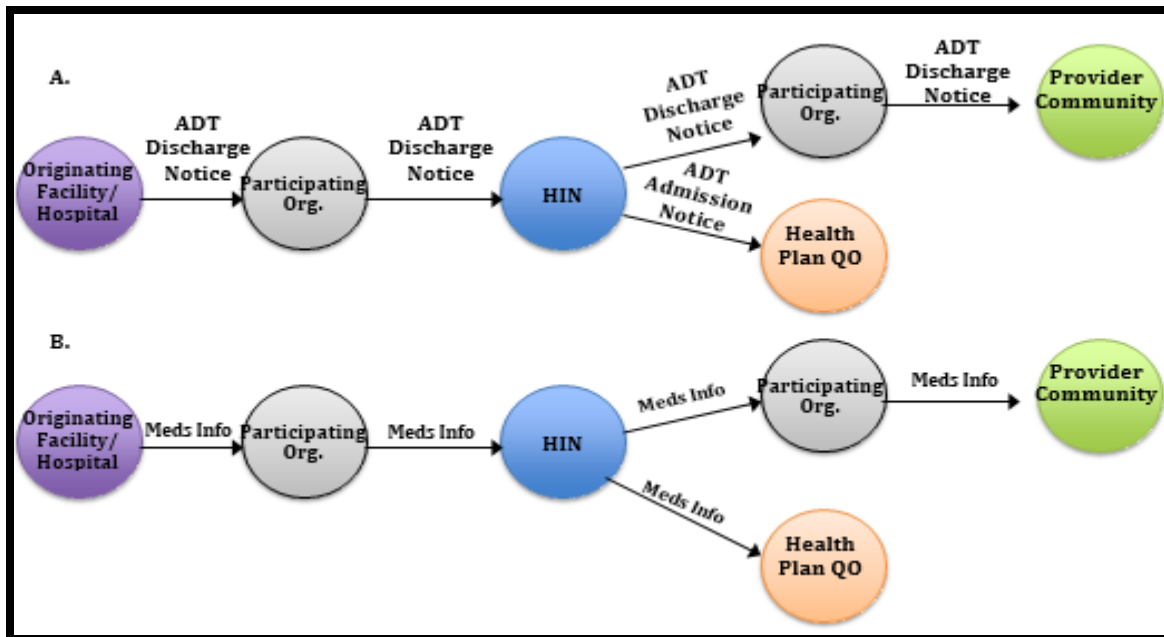


Figure 1. Data Flow for Discharge Medication Reconciliation

- A. A discharge notification for the patient is sent from the originating facility/hospital to the providers in an active care relationship with the patient and the health plan(s) via the statewide ADT notification service.
- B. Information containing medication reconciliation for the patient is sent at the time of discharge from the originating hospital/facility to the providers in an active care relationship with the patient and to the health plan(s) via Medication Reconciliation.

Regulation

This section describes whether this use case is being developed in response to a federal regulation, state legislation or state level administrative rule or directive.

Legislation/Administrative Rule/Directive:

- Yes
- No
- Unknown

- Public Law 111-152 (Affordable Care Act)
- Public Law 111-5; Section 4104 (Meaningful Use)

Meaningful Use:

- Yes
- No
- Unknown

This use case supports the Meaningful Use Stage 2 Medication Reconciliation measures for Eligible Professionals (14) and Eligible Hospitals and CAH (Critical Access Hospital) (11).

Additionally, the Joint Commission, effective January 1, 2014, released Hospital National Patient Safety Goals (NPSG) including NPSC.03.06.01: Maintain and communicate accurate patient medication information. The rationale for this goal is the large body of evidence that medication discrepancies can negatively affect patient outcomes. Medication Reconciliation is intended to identify and resolve discrepancies.

Cost and Revenue

This section provides an estimate of the investment of time and money needed or currently secured for this use case.

This use case includes the following cost components:

- Cost to establish medication reconciliation alignment through the Blue Cross Blue Shield of Michigan (BCBSM) High Intensity Care Management Program
- Cost to develop HL7 message protocols compatible with certified EHR systems to receive standardized patient medication information

- Cost for Health Information Exchange Qualified Organizations (HIE-QOs) to develop and implement the Discharge Medication Reconciliation use case scenario
- Costs for participating organizations and hospitals to implement this use case scenario
- Costs to pilot medication information transmission to hospitals upon an ADT notification, i.e. medication history from an ADT receiver (this would be replaced when medication history is available by query)
- Costs to pilot medication information transmission of medication discharge and reconciliation notification

Implementation Challenges

This section describes the challenges that may be faced to implement this use case.

The biggest challenge is not the technology but the workflow challenges this new process introduces.

Practices, provider organizations, and hospitals will need to ensure that workflows are in place that capture ADT messages and medication history information for a patient. Then the information will need to be used at the inpatient setting and shared with the pharmacist team and all caregivers who are in an active care relationship with the patient to ensure timely intervention and consistent reconciliation at all points of the transition.

Vendor Community Preparedness

This section addresses the vendor community preparedness to readily participate in the implementation of this use case.

Since Medication Reconciliation is a component of the menu set for Stage 2 Meaningful Use, vendors certified for Stage 2 must pass certification criteria.

These criteria include Clinical Information Reconciliation (170.314 (b)(4)). The criteria “enable a user to electronically reconcile the information that represent a patient’s active medication, problem, and medication allergy lists as follows. For each list type:

1. Electronically and simultaneously display (i.e. in a single view) the data from at least two list sources in a manner that allows a user to view the data and their attributes, which must include, at a minimum, the source and last modification date.

2. Enable a user to create a single reconciled list of medications, medication allergies, or problems.
3. Enable a user to review and validate the accuracy of a final set of data and, upon a user's confirmation, automatically update the list.”⁵

Hospitals and providers are currently using certified technology that tracks medication history, active medications, problems and allergies. These systems have the ability to communicate via multiple transmission protocols including HL7.

Support Information

This section provides known information on this support for this use case.

Political Support:

- Governor
- Michigan Legislature
- Health Information Technology Commission
- Michigan Department of Health and Human Services or other State of Michigan department
- CMS/ONC
- CDC
- MiHIN Board

Other: Blue Cross Blue Shield of Michigan

Payers, hospitals, and physicians all have incentives to perform Discharge Medication Reconciliation, including the following:

- Meaningful Use incentives
- Payer incentives to providers for population health
- Improved transitions of care, reducing hospital readmissions

Concerns/Oppositions: None noted

⁵ “Test Procedure for §170.314 (b)(4) Clinical information reconciliation,” *The Office of the National Coordinator for Health Information Technology* (2014), last accessed on November 3, 2016, https://www.healthit.gov/sites/default/files/170.314b4cir_2014_tp_approved_v1.3.pdf

Sponsor(s) of Use Case

This section lists the sponsor(s) of the use case

- Blue Cross Blue Shield of Michigan (Pharmacy Services)

Metrics of Use Case

This section defines the target metrics identified to track the success of the use case.

- Number of discrepancies identified and remedied
- Number of adverse drug events prevented
- Percentage reductions in discrepancies and adverse drug events
- Reduction in admissions due to medication issues
- Number of messages generated and transmitted
- Number of HIE-QOs participating
- Number of providers participating
- Number of pharmacies participating

Other Information

This section is provided to give the sponsor(s) an opportunity to address any additional information with regard to this use case that may be pertinent to assessing its potential impact.

The Medication Reconciliation use case identifies foundational concepts for improving care transitions through medication reconciliation and outlines the following tenets of medication reconciliation, which can be applied in collaboration with other health care professionals by leveraging health information exchange infrastructure.

1. Medication reconciliation is a key process required to improve patient care and outcomes in care transitions
2. Medication reconciliation is a patient-centered/family-centered process focusing on patient safety
3. Medication reconciliation requires an interdisciplinary, collaborative approach

4. Medication reconciliation must be based on a culture of accountability
5. Medication reconciliation should be standardized
6. Effective medication reconciliation requires coordinated communication
7. Medication reconciliation requires integration of health information technology solutions
8. Medication reconciliation requires a process of continuous quality improvement