

Guidance for Use of SNOMED CT in Transitions of Care Documentation

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Table of Contents

1.	PURPOSE	3
2.	OVERVIEW	3
3.	DISCUSSION	5
3.1.	STEPS FOR TRANSITION OF CARE	5
3.2.	CODES USED FOR TRANSITION OF CARE STEPS	7
3.3.	TOC SCENARIOS	8
3.4.	TOC MEDICATION RECONCILIATION SCENARIOS	9
3.5.	TOC USE CASE SCENARIOS	12
4.	CONCLUSION	24
5.	REFERENCES	25
6.	APPENDIX	27
7.	ACKNOWLEDGEMENTS	29

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1. PURPOSE

This paper will provide an environmental scan of clinical documentation strategies used by pharmacy professionals for transitions of care (ToC), define examples of ToC processes, illustrate how clinical documentation codes can be used in practice, identify ToC documentation codes available for implementation, and identify additional ToC codes needed.

GOALS

- Identify examples of ToC steps where clinical documentation is needed.
- Determine if the clinical terms are available in Systematized Nomenclature of Medicine–Clinical Terms (SNOMED CT)¹ library.
- Identify non-existing clinical terms needed by pharmacists for ToC documentation.

RECOMMENDATIONS FOR ACTION

- Assess findings related to pharmacist documentation during ToC.
- Submit the non-existing terms identified for potential addition to SNOMED CT library.
- Compare pharmacist documentation codes and processes with Pharmacy HIT Collaborative Workgroup 1 document on the use of Current Procedural Terminology (CPT) codes for ToC.

2. Overview

Pharmacists play an integral role in patients' successful transition from one care setting to another. During health care visits, patients' medication regimens are often adjusted. With up to 67% of patients admitted to the hospital experiencing unintended medication discrepancies², it is clear that medication problems during care transitions is a critical issue.

According to the National Transitions of Care Coalition,

"Care transitions, also known as transitions of care, occur at many levels and across the entire spectrum of health care. Care transitions may be within health care systems, such as from the intensive care unit (ICU) to a general medical ward, as well as between health care systems, such as from a hospital to a long-term care facility (LTCF). Care transitions also occur between health care providers, as when a patient is referred to a specialist by his or her primary care provider or at shift changes during a patient's hospitalization."³

There are resources describing the pharmacist's role in transition of care that should be recognized when defining this term, including (1) American Medical Directors Association, *Transitions of Care in the Long-Term Care Continuum Clinical Practice Guideline (2010)*; (2) American College of Clinical Pharmacy, *Improving Care Transitions: Current Practice and Future Opportunities for Pharmacists (2012)*; and (3) American Pharmacists Association and American Society of Health-System Pharmacists, *Improving Care Transitions: Optimizing Medication Reconciliation (2012)*.

Pharmacists working with patients during transitions of care use a patient-centered approach to help optimize patients' health and medication outcomes. Pharmacists follow a Patient Care Process⁴ that includes collecting, assessing, planning, implementing, and following up to ensure patients meet their individual goals. Pharmacists will collaborate and communicate with others working on the ToC team, which includes the patient and family, and document their care. Complete and accurate documentation that can be shared with all team members is critical in the ongoing care of the patient. Being able to document the care that pharmacists provide during transitions of care using a standardized coding method, such as SNOMED CT, would facilitate electronic exchange of clinical



information between ToC team members.

Pharmacists providing patient care services are increasingly participating in new models of care with a focus on care transitions. This emphasizes pharmacists' shared accountability with other providers for reaching better medication outcomes for patients. Under these new care models and during transition of care, pharmacists, in conjunction with members of the care team including the individual, their family, and other caregivers, are to focus on person-centered overall outcomes rather than outcomes associated with specific clinical services or disease states.

It is important at the time a transition takes place that pharmacists should receive and update or create (when one is not available) a longitudinal person-centered medication related plan of care. The National Partnership for Women and Families has identified the following key principles as part of the vision for person-centered shared care planning:⁵

1. *Health and care plans should be goal-oriented, dynamic tools (not static documents).*
2. *Tools that facilitate health and care planning should enable all members of the care team to securely access and contribute information, according to their roles.*
3. *Health and care plans should identify and reflect the ability and readiness of an individual (and caregiver) to successfully meet the individual's goals, as well as potential barriers.*
4. *Health and care planning and tools should facilitate decision-making and specify account ability.*
5. *Every individual would benefit from health and care planning and tools.*

There is an electronic standard for exchanging care plans where standard clinical codes (e.g., SNOMED CT) are embedded in the electronic structured care plan document. The standards for a shared longitudinal care plan for exchange with care providers are described in *HL7 Implementation Guide for CDA® (Clinical Data Architecture) Release 2: Consolidated CDA Templates for Clinical Notes* (November 2014).⁶

For the purpose of this paper a medication care plan includes an active medication list, medication action plan, and patient specific goals developed in collaboration with the patient and other health-care providers.

To illustrate ToC processes that could be coded using clinical documentation codes, three ToC case scenarios will be outlined and discussed. A gap analysis was conducted with regard to these ToC clinical documentation codes by identifying those currently in existence and comparing them to the clinical codes that were defined in the use case scenarios. Gaps in these codes that are identified will be reviewed and submitted for possible addition to our current ToC clinical documentation codes. Lastly, this paper will illustrate how pharmacists could use ToC clinical documentation codes in their practices.



3. DISCUSSION

3.1. STEPS FOR TRANSITIONS OF CARE

FROM HOME (COMMUNITY SETTING) TO HOSPITAL SETTING AND FROM HOSPITAL SETTING TO LONG TERM AND POST ACUTE CARE (LTPAC)

ON ADMISSION FROM HOME TO HOSPITAL SETTING

1. Gather patient's medication-related information on admission.
 - a. Contact patient's family, community pharmacies, or other coordinating agencies; review medical records; and discuss with patient to gather a list of current medications.
 - b. Identify an existing medication care plan, if it exists.
2. Reconcile patient's medications on admission.
 - a. Create or update the current medication list.
 - b. Compare current medication list with active inpatient medication orders to ensure patient is on optimal treatment regimen.

(Note: may be completed by pharmacists or other health care providers (e.g., nurses, physicians, etc.)

3. Reconcile patient's clinical information on admission.
 - a. Ensure past medical history, allergies history, and adverse drug event history are up-to-date.
 - b. Ensure orders for laboratory tests are up-to-date.

(Note: may be completed by pharmacists or other health care providers (e.g., nurses, physicians, etc.)

4. Develop, document, and implement a medication care plan for the hospital stay.
 - a. Evaluate most recent medication care plan, if it exists.
 - b. Work with the patient to develop a medication care plan that includes a medication-related action plan and medication-related goals.
 - c. Obtain agreement on the medication care plan from the multidisciplinary team.
 - d. Document the medication care plan in the electronic health record.
 - e. Discuss the medication care plan with the patient.
 - f. Implement the medication care plan.

5. Assess patient's risk for problems during the ToC process.

ON DISCHARGE FROM HOSPITAL TO LONG-TERM AND POST-ACUTE CARE SETTING (LTPAC)

1. Review patient's risk for problems during ToC and develop a ToC plan appropriate to risk.
2. Reconcile patient's medications on discharge.



- a. Create or update the current medication list.
- b. Compare active inpatient orders with discharge medication orders to ensure patient can obtain needed medications

(Note: these may be completed by pharmacists or other health care providers (e.g., nurses, physicians, etc.)

3. Reconcile patient's clinical information at discharge.

- a. Ensure past medical history, allergies history, and adverse drug event history are up-to-date.
- b. Ensure needed discharge laboratories are ordered.
- c. Ensure follow-up medication management appointments are scheduled.

(Note: these may be completed by pharmacists or other health care providers (e.g., nurses, physicians, etc.)

4. Develop, update, and communicate the medication care plan for discharge.

- a. Work with the patient to develop a discharge medication care plan that includes a medication-related action plan and medication-related goals.
- b. Obtain agreement on the medication care plan from the multidisciplinary team.
- c. Document the medication care plan in the electronic health record.
- d. Discuss the medication care plan with the patient.

5. Coordinate care for discharge with patient, hospital care team, and patient's new LTPAC team.

- a. Send the medication care plan to the receiving provider(s) at LTPAC, dispensing pharmacy, and other agencies providing care (e.g., hospice, specialty pharmacy, home-health, infusion pharmacy, etc.).
- b. Discuss the medication care plan with receiving provider(s).
- c. Ensure patient can obtain needed medications from dispensing facilities.

(Note: pharmacists or health care providers may be care coordinators.)

6. Reconcile patient's medication and clinical information within two days of discharge.

- a. Ensure patient has obtained needed medications.
- b. Ensure patient is aware of upcoming laboratory draws and follow-up appointments.

Note: may be completed by pharmacists or other health care providers (e.g., social workers, nurses, CNA's).

ON ADMISSION TO LONG-TERM AND POST ACUTE CARE SETTING (LTPAC)

1. Gather patient's medication-related information on admission.

- a. Receive current medication list and discharge medication care plan from hospital pharmacist.
- b. Contact patient's family, community pharmacies, or other coordinating agencies; review medical records; and discuss with patient to gather additional information if needed.



2. Reconcile patient's medications on admission.
 - a. Update the current medication list.
 - b. Ensure patient has active orders and is able to obtain needed medications.

(Note: these may be completed by pharmacists or other health care providers (e.g., nurses, physicians, etc.).)
3. Reconcile patient's clinical information on admission.
 - a. Ensure past medical history, allergies history, and adverse drug event history are up-to-date.
 - b. Ensure orders for laboratory tests are up-to-date.

(Note: these may be completed by pharmacists or other health care providers (e.g., nurses, physicians, etc.).)
4. Evaluate and implement medication care plan for the LTPAC stay.
 - a. Evaluate most discharge medication care plan.
 - b. Work with the patient to modify the medication care plan.
 - i. Obtain agreement on modifications to the medication care plan from the multidisciplinary team.
 - ii. Document modifications to the medication care plan in the electronic health record.
 - c. Discuss the medication care plan with the patient.
 - d. Implement the medication care plan.
5. Assess patient's risk for problems during the ToC process from the LTPAC to home.



3.2 EXAMPLE OF CODES USED FOR TOC STEPS

1. **Findings** represent the results of a clinical observation such as diagnoses or problems. Examples include:
 - Transition of care from one setting to another
 - *Transition of care from home to acute care*
 - *Transition of care from acute care to long-term care*
 - Drug therapy problems
 - Medication dose too high
 - *Adverse drug-drug interaction*
 - *Needs additional medication to treat condition*
 - The CORE Problem List Subset of SNOMED CT^{®7}
2. **Procedures** represent activities performed in the provision of health care. Examples include:
 - *Medication reconciliation by pharmacist*
 - *Documentation of medication care plan*
 - *Recommendation to increase medication dose*
 - *Medication education*
 - *Respiratory disorder education*
3. **Situations** represent clinical findings and procedures that have yet to occur or occurred at some prior time.
 - *Medication started*
 - *Dose increased*
 - *Medication care plan discussed with patient*



3.3 TOC BILLING CODES

Development of ToC codes is not new. The American Medical Association has developed current procedural terminology (CPT) codes for transitional care management services (TCMS), and they have been in use now for several months. Using these CPT codes for TCMS as a guide, the following three ToC scenarios were developed to help identify the SNOMED CT codes that will be needed for ToC clinical documentation by pharmacists.

The (CPT) TCMS codes are designed to report transitional care management services for an established patient with medical and psychological care requiring moderate or high complexity medical decision making. These codes are intended to report services that occur when patients are making transitions from an inpatient setting (including acute hospital, rehabilitation hospital, long-term care hospital), partial hospital, observation status in a hospital, or skilled nursing facility/nursing facility, to the patient's community setting (home, domiciliary, rest home, or assisted-living institution). The services may initiate on the date of discharge and extend for 29 days from that date. TCMS include face-to-face and non-face-to-face service elements.⁸

The new TCMS codes include the following:

99495 Transitional Care Management Services with the following required elements:

Communication (direct contact, telephone, electronic) with the patient and/or caregiver within two business days of discharge. Medical decision making of at least moderate complexity during the service period. Face-to-face visit, within 14 calendar days of discharge.

99496 Transitional Care Management Services with the following required elements:

Communication (direct contact, telephone electronic) with the patient and/or caregiver within two business days of discharge. Medical decision making of high complexity during the service period. Face-to-face visit, within seven calendar days of discharge.



3.4 MEDICATION RECONCILIATION DEFINITIONS

Medication reconciliation is an important component of the transitions of care process. There are several definitions and approaches to medication reconciliation defined in the literature. In order to proceed with development of clinical coding to capture medication reconciliation, it is important to review the different definitions to ensure the process is being captured appropriately.

1. THE CENTERS FOR MEDICARE AND MEDICAID SERVICES (CMS) DEFINITION

Medication reconciliation is the process of identifying the most accurate list of all medications that the patient is taking, including name, dosage, frequency and route, by comparing the medical record to an external list of medications obtained from a patient, hospital, or other provider.⁹

2. THE JOINT COMMISSION FOR 2015 NPSG.03.06.01 PATIENT SAFETY GOAL DEFINITION

Medication reconciliation is a process of comparing the medications a patient is taking (and should be taking) with newly ordered medications. The comparison addresses duplications, omissions, and interactions, and the need to continue current medications. The types of information that clinicians use to reconcile medications include (among others) medications name, dose, frequency, route, and purpose.¹⁰

3. THE INSTITUTE FOR HEALTHCARE IMPROVEMENT (IHI) DEFINITION

Medication reconciliation is the process of creating the most accurate medication list possible of all medications a patient is taking, including drug name, dosage, frequency, and route-and comparing that list against the physician's admission, transfer, and/or discharge orders, with the goal of providing correct medications to the patient at all transition points within the hospital.¹¹

4. THE AMERICAN SOCIETY OF HEALTH SYSTEM PHARMACISTS (ASHP) – AMERICAN PHARMACISTS ASSOCIATION (APHA) DEFINITION

Medication reconciliation is an integral part of the care transitions process in which health care professionals collaborate to improve medication safety as the patient transitions between patient care settings or levels of care. In early 2007, the American Pharmacists Association and the American Society of Health-System Pharmacists convened an expert panel to establish a shared vision of medication reconciliation. The goal was to develop a definition that the two organizations could use in discussions with both peers and interdisciplinary groups.¹² The shared definition developed by the expert panel is:

*Medication reconciliation is the **comprehensive evaluation** of a patient's medication regimen any time there is a change in therapy in an effort to avoid medication errors such as omissions, duplications, dosing errors, or drug interactions, as well as to observe compliance and adherence patterns. This process should include a comparison of the existing and previous medication regimens and should occur at every transition of care in which new medications are ordered, existing orders are rewritten or adjusted, or if the patient has added nonprescription medications to [his or her] self-care.¹³*

These four medication reconciliation definitions are representative of industry standards of practice. The first three definitions focus on comparing medication lists in attempts to develop the most accurate list possible. The fourth definition from the ASHP/APhA collaboration may be more appropriate to use in defining the pharmacists' processes during ToC, as it includes the comparison of medication lists, as well as a comprehensive evaluation of a patient's medication, and so goes well beyond collecting an accurate medication list.

For the purpose of this document, this collaborative definition from two major pharmacy organizations, ASHP/APhA *Improving Care Transitions: Optimizing Medication Reconciliation*,¹⁴ seems to be



the most appropriate definition for providing guidance for pharmacists during transitions of care and will be used during our ToC scenarios that follow.

This comparison of medication reconciliation definitions illustrates the process differences that occur when pharmacists perform medication reconciliation, as opposed to other health care personnel. For accurate and comprehensive medication management, the pharmacy profession recommends their definition above to be the most appropriate for medication reconciliation during transitions of care and should be performed by a pharmacist. There is a SNOMED CT code for medication reconciliation by pharmacists.

The Pharmacy HIT Collaborative's SNOMED CT guidance document introduces SNOMED CT to pharmacists and describes how it will be used to document pharmacist-provided patient care services, including the example of hierarchical structure for pharmacists providing medication reconciliation follows:

- Medication Reconciliation (procedure) - 430193006 (Parent Concept ID)
- Medication Reconciliation by pharmacist (procedure) – 428701000124107¹⁵

When utilizing SNOMED CT and other standard coding terminologies, it is important to be as explicit as possible. Medication reconciliation may mean a series of actions to the pharmacy community, but each of these actions must be documented to represent the entirety of the procedure. Each of these actions will need to be clearly documented using SNOMED CT terminology for the encounter to be properly codified. The pharmacist's medication reconciliation steps on admission and discharge are delineated below.

MEDICATION RECONCILIATION STEPS ON ADMISSION

- Pharmacist collects and documents the home medication list on admission. This information could be collected from the patient, the patient's family, the dispensing pharmacy, the patient's EHR, home care agency, physician's office, skilled nursing facilities, assisted living facilities, etc.
- Pharmacist collects and documents drug allergies and adverse drug reactions on admission.
- Pharmacist assesses and updates missing or conflicting information from home medication list on admission.
- Pharmacist assesses and updates missing or conflicting information of drug allergies and adverse drug reactions on admission.
- Pharmacist assesses and documents drug therapy problems presented on admission.
- Pharmacist develops a plan to resolve drug therapy problems on admission.
- Pharmacist collaborates with the patient, physicians, and other team members to develop and implement an admission medication care plan which contains an active medication list.

MEDICATION RECONCILIATION STEPS AT DISCHARGE

- Pharmacist reviews and assesses the home and institution (e.g., hospital, nursing facility, home health care agency) medication list on discharge.
- Pharmacist reviews drug allergies and adverse drug reactions on discharge.
- Pharmacist updates and documents missing or conflicting information from home



medication list on discharge.

- Pharmacist assesses and documents missing or conflicting information of drug allergies and adverse drug reactions on discharge.
- Pharmacist assesses and documents drug therapy problems presented on discharge.
- Pharmacist develops a plan to resolve drug therapy problems on discharge.
- Pharmacist collaborates with the patient, physicians, and other team members to develop and implement a discharge medication care plan which contains an active medication list.



3.5 TOC USE CASE SCENARIOS

The three scenarios below follow the Joint Commission of Pharmacy Practitioners (JCCP) Pharmacists’ Patient Care Process. This process outlined in Appendix A depicts a proposed standardized pharmacist patient-centered collaborative care process for pharmacists providing medication therapy management (MTM) services. The pharmacists’ patient care process described in this illustration was developed by examining a number of key source documents on pharmaceutical care and MTM. Patient care process components in each of these resources were catalogued and compared to create the following process that encompasses a contemporary and comprehensive approach to patient-centered care that is delivered in collaboration with other members of the health care team.

16

Scenario 1: Hospital to Community Home-Based Care

AB is a 74-year-old, Hispanic, female presented to the emergency department via ambulance. Patient was admitted to the hospital with a diagnosis of severe hypoglycemia and falls. Prior to hospital, patient was living at home.

The hospital pharmacist completed medication reconciliation on admission.

The hospital pharmacist worked with the patient, the patient’s family, other providers, and the patient’s dispensing pharmacist to identify all of the medications, vitamins, and supplements the patient was taking. The names of the medications, the indication, route, dose, frequency, directions, and the last dose taken were documented into the patient’s electronic health record. The patient’s drug allergies and adverse drug reactions were also collected. The hospital pharmacist did a comprehensive assessment of the medications and identified drug therapy problems.

SNOMED CT Concept	Category	SNOMED CT ID
Transition of care from home to acute care	Finding	448481000124109
Gathering of current medication list	Procedure	In Development
Documentation of current medications	Procedure	428191000124101
Comprehensive medication review	Procedure	428911000124108
Medication reconciliation by pharmacist	Procedure	428701000124107
Gathering of allergies history	Procedure	In Development
Documentation of allergy history	Procedure	In Development
Evaluation of allergy history	Procedure	In Development
Gathering of past medical history	Procedure	In Development
Documentation of past medical history	Procedure	435871000124102
Evaluation of past medical history	Procedure	In Development
Collection of adverse drug event history	Procedure	In Development
Documentation of adverse drug event history	Procedure	In Development
Evaluation of adverse drug event history	Procedure	In Development



The hospital pharmacist worked with the patient care team to develop the patient's medication care plan. This included a plan to resolve drug therapy problems, a plan of what home medications should be continued during the hospitalization, and identified new medications that the patient would need for the current condition. This plan was then implemented.

SNOMED CT Concept	Category	SNOMED CT ID
Development of medication care plan with patient	Procedure	In Development
Documentation of medication care plan	Procedure	In Development
Documentation of medication-related action plan	Procedure	432351000124105
Documentation of medication-related goals	Procedure	In Development
Implementation of medication care plan	Procedure	In Development

Medication list on admission

- Metformin tablets 1000 mg bid- DM Type 2- last dose 2/5/15 am
- Glipizide 10 mg bid – DM Type 2 – last dose 2/5/15 am
- Sulfamethoxazole/ Trimethoprim DS 1 twice daily – urinary tract infection – last dose taken 2/5/15 am
- Lisinopril 5mg daily – hypertension – last dose taken 2/5/15
- Atorvastatin 20mg HS – hyperlipidemia – last dose taken 2/4/15
- Lorazepam 1 mg QID for anxiety and sleep – last dose taken 2/5/15 12 at noon

Problem List on admission

- Diabetes Mellitus: type 2
- Osteoporosis
- Anxiety
- Hypertension
- Hyperlipidemia
- Urinary tract infection

Allergies and adverse reactions

- No known allergies
- No adverse reactions

Drug Therapy problems identified

- 1) Safety: drug not safe because of drug interaction: Sulfamethoxazole/TMP and glipizide. Increased hypoglycemic effect of glipizide. Sulfameth/TMP will be discontinued as infection is resolved.
- 2) Indication: needs additional therapy. Aspirin should be started because of diabetes diagnosis.
- 3) Safety: dose too high. Hold glipizide, and then restart at a lower dose after the sulfameth/



TMP interaction is done. Use regular insulin for coverage if needed.

- 4) Safety: lorazepam. Drug not safe for patient. Plan to decrease lorazepam and start sertraline.
- 5) Indication: untreated condition osteoporosis. Plan to defer therapy to outpatient MTM clinic.

The patient’s condition stabilizes and discharge planning begins. An assessment of the patients risk for ToC problems was completed. Determined patient was at moderate risk and so will be followed by Home Health Care.

SNOMED CT Concept	Category	SNOMED CT ID
Comprehensive medication review	Procedure	428911000124108
Adverse drug interaction with drug	Finding	448178009
Drug therapy discontinued	Situation	274512008
New medication therapy needed for condition	Finding	436071000124104
Medication started	Situation	266709005
Medication dose too high	Finding	448089004
Medication paused	Situation	In Development
Medication dose decreased	Situation	432771000124101
Medication unsafe	Finding	In Development
Medication dose decreased	Situation	432771000124101
Medication started	Situation	266709005
New medication therapy needed for condition	Finding	436071000124104
Referral to pharmacist	Procedure	306362008
Assessment of risk for drug therapy problems during transition of care	Procedure	In Development

The hospital pharmacist completed medication reconciliation on discharge.

The pharmacist does a comprehensive assessment of the patient’s medications and works with the hospitalist to determine the medication orders for discharge.

The hospital pharmacist ensures all appropriate appointments and laboratory orders related to medication management are coordinated and documented in the medication care plan. This includes scheduling an MTM appointment for the patient.

The pharmacist collaborates with the patient and other team members to develop the discharge medication care plan, which includes the medication list, the patient’s medication-related action plan, and patient centered medication-related goals.

SNOMED CT Concept	Category	SNOMED CT ID
Comprehensive medication review	Finding	428911000124108



SNOMED CT Concept	Category	SNOMED CT ID
Documentation of current medications	Procedure	428191000124101
Medication reconciliation by pharmacist	Procedure	428701000124107
Documentation of medication care plan	Procedure	In Development
Documentation of medication-related action plan	Procedure	432351000124105
Documentation of medication-related goals	Procedure	In Development
Medication care plan agreed on by team	Situation	In Development

The Discharge Medication List

- Metformin 1000 mg bid
- Glipizide 5mg bid
- Lisinopril 5mg daily
- Aspirin 81 mg daily
- Atorvastatin 20mg daily
- Lorazepam 0.5mg tid and 1 mg at hs for anxiety and sleep
- Sertraline 25mg daily

The hospital pharmacist educates the patient on the new medication care plan. The pharmacist discusses with the patient which medications to stop taking (sulfamethoxazole/TMP), which medications to start taking (aspirin and sertraline), and which medications to change (slowly begin lorazepam taper and decrease glipizide).

SNOMED CT Concept	Category	SNOMED CT ID
Medication education at discharge	Procedure	In Development
Medication care plan discussed with patient	Situation	In Development

The hospital pharmacist coordinates with home health care agency/dispensing pharmacy.

Since the patient will be discharged with home health care, the patient’s medication care plan was provided to them. The hospital pharmacist collaborates with home care agency to ensure medication care plan can be implemented.

The hospital pharmacist provided the patient’s dispensing pharmacist with the patient’s medication care plan (which includes the discharge medication list) and the new prescriptions that the patient received at discharge. The hospital pharmacist collaborates with dispensing pharmacist to make sure all medications are available for the patient.

SNOMED CT Concept	Category	SNOMED CT ID
Medication care plan sent to dispensing pharmacist	Procedure	In Development
Medication care plan discussed with dispensing pharmacist	Procedure	In Development



SNOMED CT Concept	Category	SNOMED CT ID
Medication care plan sent to receiving provider	Procedure	In Development
Medication care plan discussed with receiving provider	Procedure	In Development

The home health care agency's pharmacist receives the medication care plan and will implement it. This includes ensuring the patient has the appropriate supply of medications at home.

The home health care agency's pharmacist does an admission medication reconciliation to their agency.

SNOMED CT Concept	Category	SNOMED CT ID
Transition of care from acute care to home health care	Finding	1871000124103
Implementation of medication care plan	Procedure	In Development
Medication reconciliation by pharmacist	Procedure	428701000124107

The patient had a follow up MTM appointment with a pharmacist at the clinic within two days to discuss medication changes and the possibility of starting osteoporosis therapy. The patient was instructed to bring her medication care plan and all of the medications to this appointment.

Follow up at the MTM clinic: the MTM pharmacist reconciled the medications and followed up on the medication care plan. The pharmacist and patient discussed whether the patient was able to follow the new medication regimen. The patient was started on calcium and a bisphosphonate; lorazepam dose was further lowered; and sertraline dose was increased. Glipizide dosage was kept the same. The MTM pharmacist and the patient updated the patient's medication care plan, which included patient specific goals. MTM pharmacist provided the patient and the home health agency a copy of the updated medication care plan.

The MTM pharmacist coordinates with the dispensing pharmacy to assure all medications are available.

SNOMED CT Concept	Category	SNOMED CT ID
Evaluation of medication care plan	Procedure	In Development
Comprehensive medication review	Procedure	428911000124108
Medication reconciliation by pharmacist	Procedure	428701000124107
New medication therapy needed for condition	Procedure	436071000124104
Prescription medication started	Situation	432861000124103
Prescription medication started	Situation	432861000124103
Medication dose too high	Finding	448089004
Medication dose decreased	Situation	432771000124101
Medication dose too low	Finding	448152000
Medication dose increased	Situation	432761000124108



SNOMED CT Concept	Category	SNOMED CT ID
Development of medication care plan with patient	Procedure	In Development
Documentation of medication care plan	Procedure	432351000124105
Documentation of medication-related goals	Procedure	In Development
Medication care plan discussed with patient	Situation	In Development
Medication care plan sent to dispensing pharmacist	Procedure	In Development
Medication care plan discussed with dispensing pharmacist	Procedure	In Development
Medication care plan sent to receiving provider	Procedure	In Development
Medication care plan sent to primary care provider	Procedure	In Development
Follow-up medication therapy management appointment scheduled	Situation	In Development

Scenario 2: Skilled Nursing Facility to Home Care Agency

Background

AB is a 75-year-old, Hispanic, woman living at home who recently fell and was admitted to the hospital to surgically repair a broken right hip. She was discharged to a skilled nursing facility (SNF) for post-surgical rehabilitation services. After one week, she developed osteomyelitis and started IV vancomycin therapy. After a two-week stay, she was discharged to a home health care agency to complete her rehabilitation and IV services in her home where she lives with her daughter.

The SNF's consultant pharmacist does a comprehensive assessment of the patient's medications and works with the patient and patient's health care team to determine the medication orders for discharge.

The SNF's consultant pharmacist ensures all appropriate appointments and laboratory orders related to medication management are coordinated and documented in the medication care plan. This includes scheduling an MTM appointment.

The SNF's consultant pharmacist collaborates with the patient and other team members to develop the discharge medication care plan, which includes the medication list, the patient's medication action plan, and patient centered medication-related goals.

Patient was educated on her new medication care plan.

SNOMED CT Concept	Category	SNOMED CT ID
Comprehensive medication review	Procedure	428911000124108
Documentation of current medications	Procedure	428191000124101
Medication reconciliation by pharmacist	Procedure	428701000124107
Discharge medication orders placed	Situation	In Development
Discharge laboratory monitoring orders placed	Situation	In Development
Follow-up medication therapy management appointment scheduled	Situation	In Development



SNOMED CT Concept	Category	SNOMED CT ID
Development of medication care plan with patient	Procedure	In Development
Documentation of medication care plan	Procedure	In Development
Documentation of medication-related action plan	Procedure	432351000124105
Documentation of medication-related goals	Procedure	In Development
Medication care plan agreed on by team	Procedure	In Development
Medication education at discharge	Situation	In Development
Medication care plan discussed with patient	Situation	In Development

Current Medication List at Discharge from SNF

- Vancomycin 1 gram IVPB q24 hours (target trough 15-20 mcg/ml)
- Metformin 1000 mg BID
- Glipizide XL 5 mg every morning
- Lisinopril 10 mg every morning
- Atorvastatin 40 mg q HS
- Aspirin 81 mg daily
- Sertraline 50 mg daily

Current Problem List at Discharge from SNF

- Oseteomyelitis
- Diabetes Mellitus: type 2
- Osteoporosis
- Anxiety
- Hypertension
- Hyperlipidemia

Allergies and adverse reactions

- No known allergies
- No adverse reactions

Labs

- Serum creatinine of 1.4 (creatinine clearance of 32 ml/min)

Additional Patient Information

Height: 5'4"

Weight: 50 kg

The SNF Consultant pharmacist coordinates with home care agency/dispensing pharmacy/infusion pharmacy.



The patient’s medication care plan developed by the SNF is given to the home care agency. The SNF consultant pharmacist collaborates with the home care agency to ensure the medication care plan can be implemented.

The patient’s medication care plan and the new prescriptions that the patient received at discharge from the SNF are given to the patient’s dispensing pharmacist. The SNF consultant pharmacist collaborates with the dispensing pharmacist to make sure all medications are available for the patient.

The patient’s medication care plan and the new prescription for IV vancomycin received at discharge from the SNF are sent to the patient’s infusion pharmacy. The SNF consultant pharmacist collaborates with the infusion pharmacist on the vancomycin dosing plan to make sure vancomycin will be available for the patient.

SNOMED CT Concept	Category	SNOMED CT ID
Medication care plan sent to receiving provider	Procedure	In Development
Medication care plan discussed with receiving provider	Procedure	In Development
Medication care plan sent to dispensing pharmacist	Procedure	In Development
Medication care plan discussed with dispensing pharmacist	Procedure	In Development
Medication care plan sent to infusion pharmacist	Procedure	In Development
Medication care plan discussed with infusion pharmacist	Procedure	In Development

The home care agency completes an admission medication reconciliation. A home care nurse may complete the medication reconciliation on admission with the home care pharmacist verification. The home care pharmacist reviewed the medication care plan with the patient, patient’s family, and dispensing pharmacist to ensure that all of the patient’s medications were identified. The name of the medications, the indication, route, dose frequency, directions and the last dose taken were documented into the patient’s electronic health record. The patients drug allergies and adverse drug reactions were also collected.

SNOMED CT Concept	Category	SNOMED CT ID
Transition of care from long-term care to home-health care	Finding	1941000124101
Gathering of current medication list	Procedure	In Development
Documentation of current medications	Procedure	428191000124101
Comprehensive medication review	Procedure	428911000124108
Medication reconciliation by pharmacist	Procedure	428701000124107
Gathering of allergies history	Procedure	In Development
Documentation of allergy history	Procedure	In Development
Evaluation of allergy history	Procedure	In Development
Gathering of adverse drug event history	Procedure	In Development



SNOMED CT Concept	Category	SNOMED CT ID
Documentation of adverse drug event history	Procedure	In Development
Evaluation of adverse drug event history	Procedure	In Development

The home care agency's pharmacist will assess the care plan with the patient and the patient care team and work to resolve any drug therapy problems that may have been identified. Once the care plan is reviewed and updated, the care plan will be implemented. The home care pharmacist will coordinate with the dispensing pharmacist and the infusion pharmacist to ensure all medications are available to the patient.

SNOMED CT Concept	Category	SNOMED CT ID
Evaluation of medication care plan	Procedure	In Development
Development of medication care plan with patient	Procedure	In Development
Medication care plan agreed on by team	Procedure	In Development
Documentation of medication care plan	Procedure	432351000124105
Medication care plan discussed with patient	Situation	In Development
Implementation of medication care plan	Procedure	In Development
Medication care plan discussed with dispensing pharmacist	Procedure	In Development
Medication care plan discussed with infusion pharmacist	Procedure	In Development

The home care pharmacist ensures all appropriate appointments and laboratory orders related to medication management are coordinated and documented in the care plan.

The home health care/infusion pharmacist/dispensing pharmacist educates the patient about the new medication list and the instructions included about which home medications to stop taking (Tylenol PM for sleep) and discusses non-medication alternative therapies to assist with sleep that would not increase her risk of falls.

SNOMED CT Concept	Category	SNOMED CT ID
Medication orders up to date	Finding	In Development
Laboratory orders up to date	Finding	In Development
Medication education	Procedure	967006
Medication care plan discussed with patient	Procedure	In Development
Medication therapy management appointments up to date	Finding	In Development

The patient had a follow up MTM appointment with a pharmacist within two days to discuss medication changes and possible new therapy problems.

The MTM appointment was performed telephonically by the dispensing pharmacy's MTM pharmacist. The MTM pharmacist reconciled the medications. The MTM pharmacist, the patient, and the patient's daughter followed up on the new medication regimen. The MTM pharmacist and patient updated the patient's medication care plan, which included patient specific goals. The MTM phar-



macist provided the patient and the home care agency a copy of medication care plan.

The MTM pharmacist coordinated with the dispensing pharmacies to ensure the availability of all medications.

SNOMED CT Concept	Category	SNOMED CT ID
Medication reconciliation by pharmacist	Procedure	428701000124107
Development of medication care plan with patient	Procedure	In Development
Documentation of medication care plan	Procedure	In Development
Documentation of medication-related action plan	Procedure	In Development
Documentation of medication-related goals	Procedure	In Development
Medication care plan sent to receiving provider	Procedure	In Development
Medication care plan discussed with receiving provider	Procedure	In Development
Medication care plan sent to dispensing pharmacist	Procedure	In Development
Medication care plan discussed with dispensing pharmacist	Procedure	In Development

Scenario 3: Clinic/Community to Hospital

Background

AB is a 75-year-old, Hispanic, woman with diabetes mellitus (type 2) and hypertension (HTN) and is living at home. Within the last four months she fell and had hip surgery. She developed osteomyelitis and was on IV vancomycin therapy at home. She’s been under the care of the diabetes clinic and the dispensing pharmacists are coordinating her medication-related services.

Patient presents to her primary care provider (PCP) complaints of shortness of breath, cough, increased dyspnea on exertion, lower extremity edema, and weight gain (approximately 5-10 pounds) for the last week. She admits to dietary noncompliance (drinking large volumes of soda and eating food high in sodium) but denies chest pain, palpitations, fever/chills, abdominal pain, nausea, vomiting, or changes in bowel/bladder pattern. She has orthopnea, which usually requires her to sleep in her recliner. She denies recent paroxysmal nocturnal dyspnea.

The patient is subsequently diagnosed with paroxysmal atrial fibrillation and non-ischemic cardiomyopathy (EF 20-25%). Her other medical conditions include: diabetes mellitus type 2, hypertension, osteoporosis, anxiety, and hyperlipidemia.

The PCP decides to admit the patient to the hospital for further work up.

The clinic pharmacist completes the medication reconciliation at the clinic appointment.

In order to identify all of the medications, vitamins, and supplements the patient is currently taking, the clinic pharmacist collects information from the patient, the patient’s daughter, the patient’s dispensing pharmacy, and reviews the MTM pharmacist note that was completed last month with the patient. The pharmacist states the patient has deficient knowledge of her therapeutic regimen, which may be contributing to noncompliance with her maintenance medications. The names of the medications, the indication, route, dose, frequency, directions, and the last dose taken were documented into the patient’s electronic health record. The patient’s drug allergies and adverse drug reactions were also reviewed.



SNOMED CT Concept	Category	SNOMED CT ID
Transition of care from home to acute care	Finding	448481000124109
Gathering of current medication list	Procedure	In Development
Documentation of current medications	Procedure	428191000124101
Comprehensive medication review	Procedure	428911000124108
Medication reconciliation by pharmacist	Procedure	428701000124107
Gathering of allergies history	Procedure	In Development
Documentation of allergy history	Procedure	In Development
Evaluation of allergy history	Procedure	In Development
Gathering of adverse drug event history	Procedure	In Development
Documentation of adverse drug event history	Procedure	In Development
Evaluation of adverse drug event history	Procedure	In Development
Deficient knowledge of medication regimen	Finding	129866007

The clinic pharmacist assesses and updates the patient’s current medication care plan.

Updating includes the patient-centered medication-related goals, medication action plan, and medication list. The clinic pharmacist worked with the patient care team to resolve the drug therapy problems that were identified. The current medication care plan was updated to reflect these new changes.

SNOMED CT Concept	Category	SNOMED CT ID
Evaluation of medication care plan	Procedure	In Development
Documentation of medication care plan	Procedure	In Development
Documentation of medication-related action plan	Procedure	In Development
Documentation of medication-related goals	Procedure	In Development

The clinic pharmacist works with the hospital to coordinate the transition from home to acute care.

The clinic pharmacist provides the hospital pharmacist with the patient’s current medication care plan. To ensure the hospital is informed of the appropriate medication orders the patient needs for the hospital stay, an electronic patient care summary or medication care plan from the clinic was created and sent to the hospital. This electronic patient care summary or care plan included the medication plan of care. The names of the patient’s home medications, indication, route, dose, frequency, directions, the last dose taken and the patient’s drug allergies and adverse drug reactions were included in this summary. This information was documented into the patient’s electronic health record at the hospital.

SNOMED CT Concept	Category	SNOMED CT ID
Medication care plan sent to receiving provider	Procedure	In Development



Medication List

- Glipizide XL 5mg daily
- Metformin 1000 mg 1 tab BID with meals
- Aspirin 81 mg daily
- Lisinopril 10 mg daily
- Spironolactone 25 mg daily
- Atorvastatin 40 mg daily
- Sertraline 50 mg daily

Problem list on admission

- Shortness of breath
- Non-ischemic cardiomyopathy (EF 20-25%)
- Paroxysmal Atrial fibrillation
- Diabetes Mellitus: type 2
- Osteoporosis
- Anxiety
- Hypertension
- Hyperlipidemia

Allergies and adverse reactions

- No known allergies
- No adverse reactions

The hospital pharmacist receives the patient's medication care plan and reviews the clinic MTM pharmacist's and the dispensing pharmacy's MTM clinical notes. With this information, the hospital pharmacist completes an admission medication reconciliation.

SNOMED CT Concept	Category	SNOMED CT ID
Evaluation of medication care plan	Procedure	In Development
Comprehensive medication review	Procedure	428911000124108
Medication reconciliation by pharmacist	Procedure	428701000124107

The hospital pharmacist assesses the patient's current medication care plan, which now includes the new hospital medication orders.

The hospital pharmacist makes recommendations for optimizing the patient's medications and resolving drug therapy problems. The hospital pharmacist updates the patient's medication care plan. The hospital pharmacist coordinates patient and family medication related education with hospital staff. The hospital pharmacist assures home medications are available at the hospital.



SNOMED CT Concept	Category	SNOMED CT ID
Medication care plan developed with patient	Procedure	In Development
Documentation of medication care plan	Procedure	432351000124105
Medication care plan agreed on by team	Procedure	In Development
Medication care plan discussed with patient	Situation	In Development
Implementation of medication care plan	Situation	In Development
Medication education	Procedure	967006

Scenario three illustrates a case example where the patient was admitted from the clinic. The steps that are outlined above could be extrapolated to other types of admissions, such as when a patient is admitted to hospital through the emergency department.

4. CONCLUSION

Pharmacists provide several key functions during transitions of care. As members of care transition teams, it will be important in the future for pharmacists, as well as other care providers, to have methods to document these key functions that are performed to ensure their contributions to the transitions of care are able to be captured.

Many of the documentation codes outlined in the use cases were not in existence at the time this document was published. Ongoing work between members of the Pharmacy HIT Collaborative and the National Library of Medicine will continue to address these gaps. As codes are implemented in practice, it is imperative that pharmacists and colleagues communicate questions and needs with the Pharmacy HIT Collaborative using the online web portal.

This document should be used in conjunction with the Pharmacy HIT Collaborative's *Guidance to Use of CPT codes in Transitions of Care*⁷, including the AMA CPT TCMS codes, to combine detailed clinical documentation with billing codes for reimbursement. Pharmacists, vendors, and other stakeholders should use this document to guide SNOMED CT implementation efforts.



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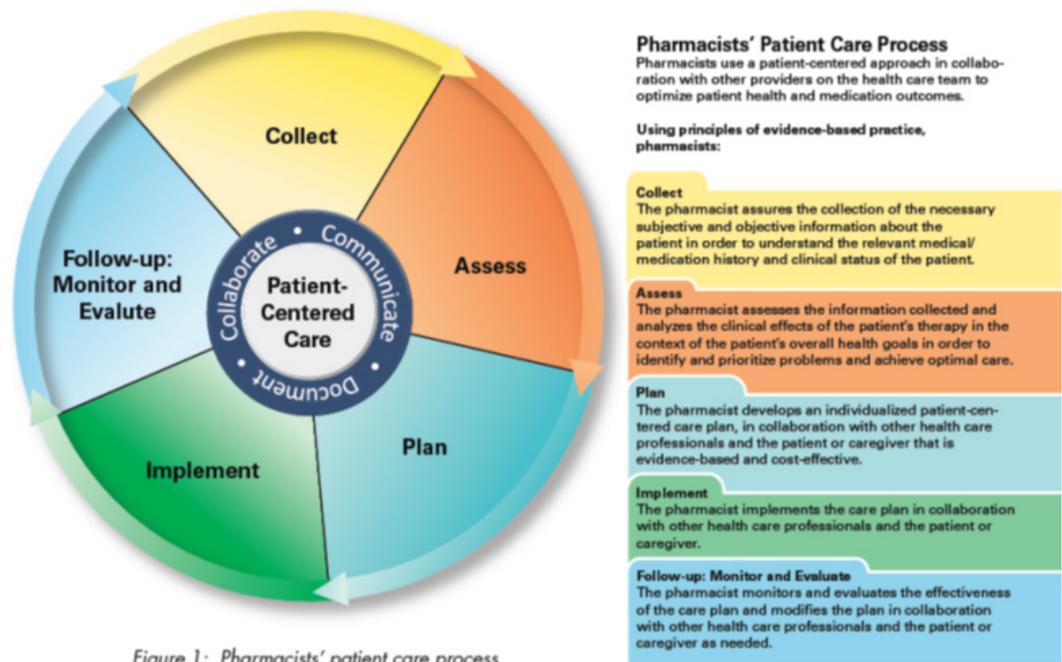


Figure 1: Pharmacists' patient care process

6. APPENDIX

Diagram of a Standardized Pharmacist Patient-Centered Collaborative Care Process

The figure depicts a proposed standardized pharmacist patient-centered collaborative care process for pharmacists providing medication therapy management (MTM) services. The pharmacists' patient care process described in this illustration was developed by examining a number of key source documents on pharmaceutical care and MTM. Patient care process components in each of these resources were catalogued and compared to create the following process that encompasses a contemporary and comprehensive approach to patient-centered care that is delivered in collaboration with other members of the health care team.

(Source: Pharmacists' Patient Care Process, March 18, 2015. https://www.accp.com/docs/positions/misc/JCPP_Pharmacists_Patient_Care_Process.pdf.)

The AHRQ-funded Multi-Center Medication Reconciliation Quality Improvement Study (MARQUIS) has produced a manual and other implementation materials to help hospitals improve medication reconciliation practices. These improvements can lead to reductions in negative outcomes such as inpatient adverse drug events and readmission rates.

Health literacy features of the MARQUIS implementation materials include:

- *An assessment of how patient-centered is the hospital's medication reconciliation process (Appendix III of the manual)*
- *A video on medication counseling at discharge that includes teach-back Select to access MARQUIS materials: <http://www.hospitalmedicine.org/MARQUIS>. (Registration required.)*

Medication reconciliation is one of the components of the Re-Engineered Discharge (RED). The RED Toolkit provides a roadmap for improving the discharge process for diverse populations. Select to access the RED Toolkit: <http://www.ahrq.gov/professionals/systems/hospital/red/toolkit/index.html>.

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7. ACKNOWLEDGEMENTS

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