Acknowledgements

A communitywide approach was taken in Maricopa County, Arizona, to improve medication management safety practices and reduce medication errors and subsequent adverse drug events which often lead to hospital readmissions. This document is the culmination of work on one such intervention focused on obtaining the best medication history possible and was chosen by community stakeholders. This Medication Toolkit is designed to improve your hospital’s current process for obtaining an accurate medication history by providing those responsible with the essential knowledge and tools needed. It is also intended to drive a new communitywide standard of care for this critical process.

Thanks to those who have shared their time and expertise to help develop and produce this toolkit. It is through their expertise, creativity, and generosity of sharing their knowledge, time, and resources that Health Services Advisory Group (HSAG) presents in this toolkit for your use.

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HSAG, the Medicare Quality Innovation Network-Quality Improvement Organization for Arizona, California, Florida, Ohio, and the U.S. Virgin Islands, is tasked with increasing medication safety and coordination of care to improve the health of Medicare beneficiaries. To accomplish this, HSAG has coordinated with community stakeholders to form three community coalitions in Maricopa County that impact nearly half of the state’s Medicare Fee-for-Service (FFS) beneficiaries. Specific to the reduction and prevention of adverse drug events, HSAG is charged with implementing evidence-based or proven best-practice strategies and tools that align with the Centers for Medicare & Medicaid Services (CMS) Quality Strategy and the U.S. Department of Health and Human Services National Action Plan for Adverse Drug Event Prevention.

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# Table of Contents

Acknowledgements ................................................................................................................................................... 2  
Executive Summary................................................................................................................................................ 4  
   Medication Delivery: A Complex Process ............................................................................................................ 4  
   The Solution: A Community Best Practice Standard ............................................................................................ 5  
   Executive Summary Facts and Figures.................................................................................................................. 5  
Step 1: Establish Your Priority Population ................................................................................................................ 6  
   Screening for Priority and High-Risk Patients ...................................................................................................... 6  
Step 2: Pre-Work Before Seeing the Patient .............................................................................................................. 7  
   Gathering Information: Locate All Available Medication Lists ............................................................................ 7  
   Confirm That the Timing Is Right for the Patient/Caregiver Interview ................................................................. 7  
Step 3: Conduct the Medication History Interview ................................................................................................... 8  
Step 4: Verifying the Medication History ................................................................................................................... 10  
Step 5: Documenting the Medication History ........................................................................................................ 12  
Step 6: Escalation and Communication ................................................................................................................... 13  
Step 7: Measuring Outcomes ................................................................................................................................... 14  
   A. Quality: ........................................................................................................................................................... 14  
   B. Satisfaction: ..................................................................................................................................................... 15  
   C. Cost: ................................................................................................................................................................ 16  
Tools and Resources ................................................................................................................................................ 17  
   A. Improve Your Interview Skills ....................................................................................................................... 17  
   B. Improve Your Knowledge About Medications ............................................................................................... 19  
   C. Sample Job Description: Medication History Technician .............................................................................. 21  
   D. Sample Competency Validation Tool ............................................................................................................. 22  
   F. Medication History Collection Tool ................................................................................................................ 25  
   G. How to Complete the Medication History Collection Tool ............................................................................ 26  
   H. Staff/Provider Satisfaction Evaluation........................................................................................................ 27
Executive Summary

In a recent survey, respondents were asked about a list of mundane and even unpleasant tasks or experiences they might encounter, compared to the act of taking a medication. The results were startling. Forty-seven percent of respondents answered that they would rather take out the trash than take their medication. Twenty-seven percent would prefer getting a shot in the arm. Ten percent actually responded that they would prefer to get a cavity filled!

Figure 1. Instead of Taking Medication

What can be learned from this? It appears that taking medications has a negative connotation associated with it—perhaps even dread. Is it any wonder that obtaining an accurate medication history presents many challenges? And yet, without an accurate medication history, providers are limited in their knowledge about the patient’s current medication regimen. This can often lead to a domino effect of incorrect prescribing, medication omissions, drug-drug interactions, and subsequent adverse drug events (ADEs).

Medication Delivery: A Complex Process

Medication delivery in a hospital environment is a complex process consisting of prescribing, transcribing, dispensing, and administering medications. During any step in these processes an error may occur which could lead to an ADE, serious harm, hospitalization, re-hospitalization, longer hospital length of stay, or higher overall cost to the health system. In many instances, these ADEs are preventable.

A variety of hospital personnel currently obtain and document medication histories. Whether performed by a medication history technician, medical assistant, nurse, physician, or physician extender can vary by setting, day of the week, or even time of day and who is most available to perform the task. Variation and a lack of clear ownership of the function create a barrier to achieving highly reliable information, which may lead to poor quality, safety, and satisfaction.

Add to this process the fact that patients receive services from multiple providers and specialists that often do not communicate with each other. Further compounding the challenge are the increasing age of the population, the magnitude of medication exposure, and the level of medical literacy.
The Solution: A Community Best Practice Standard

Ideally, the medication history standards established in your hospital are the same regardless of time of day or day of the week. The goal is that each patient experiences a high quality, complete, and accurate medication history process when entering your hospital. By adopting medication history standards, organizations and, ultimately, the community will:

- Reduce the variation currently seen to achieve high reliability.
- Adopt a culture of safety and mindfulness in this work. Do not oversimplify this critical and complex function.
- Hardwire best-practice standards for obtaining, verifying, and documenting an accurate and comprehensive medication history.
- Assign responsibility to a specific role or discipline within the care team.
- Ensure that training protocols include competencies.
- Institute follow-up audits to ensure consistency of the new standardized process.
- Use tools and checklists to obtain a comprehensive medication history.
- Improve interview skills to gather a complete medication history.
- Review all paper and electronic sources when gathering medication history information.
- Perform due diligence by double-checking information from internal and external sources.
- Communicate unresolved and concerning issues to the care team.

In working toward standardizing the process of obtaining an accurate medication history, your organization will be one step closer to achieving the CMS Triple Aim of better healthcare and better health at lower costs for the patients in the community.

Executive Summary Facts and Figures

- Among adults 65 years of age or older, 57 to 59 percent reported taking five to nine medications and 17 to 19 percent reported taking 10 or more medications, making it clear that this process requires specialized knowledge, skills, and patience.2
- A recent study of patients with acute coronary syndrome or heart failure found that more than 50 percent of the hospitalized patients were either taking a previously prescribed medication that should have been discontinued (36 percent) or not taking a newly prescribed medication listed on the discharge medication list (27 percent). More than half (59 percent) of all discharged patients also misunderstood the indication, dose, or the intended frequency of use of the prescribed medications.3
- A systematic review of 22 studies involving more than 3,500 patients found errors in medication histories for up to 67 percent of patients at the time of admission. With the inclusion of patient allergies in this assessment, the incidence of errors rose to as high as 95 percent of patients; and up to 39 percent of errors had the potential to cause moderate to severe patient discomfort or deterioration in the patient’s condition.4
- The Medications at Transitions and Clinical Handoffs (MATCH) study found medication errors in more than one-third of patients studied, with 85 percent of errors originating with medication histories.5
Step 1: Establish Your Priority Population

The American Society of Health-System Pharmacists (ASHP), in its ASHP Health-System Pharmacy 2015 Initiative, stated that pharmacists should be involved in managing the acquisition of medication admission histories and provision of discharge counseling for 75 percent of hospital inpatients with complex and high-risk medication regimens by 2015. Many studies demonstrate that pharmacist-obtained medication histories are efficient and improve patient safety. However, most hospitals do not have the funding and/or have not prioritized this level of support to provide this service. For this reason, it is recommended that an organization’s first step be to identify their priority population for this intervention—making the most of the currently available resources.

Screening for Priority and High-Risk Patients

With limited resources, hospitals may consider developing specific criteria to identify and prioritize patients at highest risk for an adverse outcome. Screening patients for high-risk criteria, for example, in the emergency department prior to admission, enables personnel responsible for obtaining medication histories to target those requiring the most time and attention to process.

Some health systems have integrated risk stratification triggers and alerts within their electronic medical record programs. Electronic triggers and notifications provide quick identification of priority and/or high-risk patients. For example, patients with a certain number of prior hospital encounters within a specified time range, the presence of chronic comorbid conditions such as cancer, heart and lung disease, or the presence of a large number of chronic medications, are referred to as polypharmacy. Other health systems have integrated manual tools and checklists into existing processes to screen for, identify, and communicate the presence of priority, high-risk patients.

An assessment of current literature identified reasonable screening criteria to recognize patients at high risk for readmission within the population. These patients may benefit from enhanced pharmacy-supported medication history services, including a pharmacy consult. Identify the screening mechanism and criteria your hospital is using to better understand the population of focus in your facility.

Criteria for high risk include but are not limited to:

- Use of a high-risk medication—including anticoagulants, diabetic agents, and opioids—that often lead to a disproportionate number of severe ADEs.
- Return to the hospital within 72 hours of discharge, either from the emergency department or an observation or inpatient stay.
- Return to the hospital within 30 days after a previous encounter, for any reason.
- Severity of the patient’s illness and or level of care.
- Patient taking seven or more chronic medications.
- Diagnoses linked to Medicare’s readmission reduction program, such as heart failure, chronic obstructive pulmonary disease, pneumonia, acute myocardial infarction, hip/knee replacement, and artery bypass procedures.
- Medication confusion coupled with the presence of high-alert medications and/or low health literacy.
- Past or current medication-related hospitalization.
Step 2: Pre-Work Before Seeing the Patient

You may feel the urge to jump right in, see the patient, and obtain the medication history. However, experience reveals that by completing a few tasks prior to seeing the patient you will have greater accuracy and success. Completing these tasks will provide you with background information that will assist you when you interview the patient. This will provide a solid foundation and increase the likelihood of obtaining an accurate medication history.

Gathering Information: Locate All Available Medication Lists

If available, it is beneficial to obtain a medication list from a previous visit to your hospital or health system. This will save you time, duplication of work, and gives you a great starting point when it is time to interview the patient. It also makes it possible for you to prepare specific questions for the patient interview.

Make a best effort to locate all paper copies of medication records. Sources may include an outpatient community pharmacy, pre-hospital care settings such as a skilled nursing facility or group home, and hospice or home health care agency, if indicated. These documents may be at the patient’s bedside, with the doctor or nurse, waiting to be retrieved at the fax machine or in a specified location on the unit waiting to be scanned into the medical record.

Note: Paper documents must be labeled correctly and, when scanned, will upload to the designated location for external documents according to the hospital’s policy. This process should be followed carefully and these documents consistently placed in a specific section of the electronic medical record to enable providers to find them quickly.

For patients who present prescription bottles and/or a medication list, each individual medication and corresponding dosing instructions should be verified, if possible. A patient may be taking medication differently than what is reflected on the prescription label or may have forgotten to update his or her personal list with the newly prescribed medications, so a two-source verification process is imperative for obtaining accurate information, which directly translates into higher quality care for the patient.

Confirm That the Timing Is Right for the Patient/Caregiver Interview

- Speak to the patient’s RN about any concerns of which you should be aware prior to entry into the patient room. Validate with the RN that there are no contraindications to completing the interview.
- Consider not interviewing the patient if it is not safe—for example, the patient is exhibiting violent and/or aggressive behavior. Additionally, if the patient is cognitively impaired with no other reliable sources available or is undergoing treatment—for example, the nurse is starting an intravenous fluid or inserting a catheter or the patient is receiving a breathing treatment. In these situations, it is best to wait for a more opportune time.
- Assess the need for an interpreter for a language barrier or if the patient is hearing and/or speech impaired. If these conditions exist, obtain the assistance needed prior to entry into the patient room. Follow the hospital’s policy and procedure for contacting an interpreter or obtaining a language assist device.
- Review all signage posted outside the room indicating the need for infection control precautions and don appropriate personal protective equipment such as gown, gloves, and/or mask prior to entering the patient’s room. If you are not sure what equipment is required, contact the nurse or pharmacist lead to assist you or refer to your hospital’s infection control policy and procedure.
- Wash your hands or gel in and out every time before entering the patient’s room and upon exiting the patient’s room. Remember, wearing gloves is not a substitute for proper hand hygiene.
Step 3: Conduct the Medication History Interview

This section describes the medication history interview process to help ensure that a “good faith” effort has been made to obtain the most complete, up-to-date list of the patient’s current medications.

The process of who conducts the initial patient medication history interview and verification varies across organizations and depends on the patient population, workflow, and patient status (inpatient, outpatient, emergency department visit, or pre-registered patient). To improve your skills as an interviewer, refer to the “Tools and Resources” section.

Scripting your introduction can help you get the conversation started. Introduce yourself by providing your name and your role in the hospital. Describe the reason for your visit, tell why it is important, and set the expectation for how long the visit will take. The time will vary based on the number of medications, the capacity of the patient and/or caregiver, and other interruptions in the room that may occur related to patient care.

Good Afternoon, Mr. Jones. My name is Jane...

“Good Afternoon, Mr. Jones. My name is Jane and I am a nurse at this hospital. I would like to speak with you about your medications. It is important that we keep you as safe as possible when ordering your medications. Getting a complete and accurate list of all the medications you are taking is a good way to do that. To be thorough, this will take about thirty minutes. Is this a good time to speak with you about that?”

Use probing questions to trigger the patient’s recall of medications.

- Ask questions about routes of administration for other than oral medications such as, “Do you put any medications on your skin such as creams, ointments, lotions or patches?”
- Ask patients about what medications they take for their medical conditions such as, “What medications do you take for your diabetes (high blood sugar) or your hypertension (high blood pressure)?”
- Ask patients about which types of physicians prescribe their medications such as, “Does your cardiologist prescribe medications for you?”

Incorporating various types of probing questions into the patient interview may help trigger the patient’s memory about what medications the patient is currently taking.
When inquiring about over-the-counter (OTC) medications, additional prompts may be needed:

- What do you take when you get a headache?
- What do you take when you have allergies such as sneezing, cough, or runny nose?
- Do you take anything to help you fall asleep?
- What do you take when you get a cold?
- Do you take anything for heartburn?

Double-check the form of the medication:

- Is it a solution versus tablet? Example: sucralfate
- Is it a tablet versus sprinkles? Example: divalproex /valproic acid
- Is it a capsule versus tablet? Example: phenytoin
- Is it a chewable tab versus tablet? Example: carbamazepine
- Is it an orally disintegrating tablet (ODT) versus tablet? Example: ondansetron
- Is it instant release (IR) versus extended release (ER)? Examples: diltiazem, nifedipine, or oxybutynin

Schedule of medications taken:

For medications that are not taken daily, ensure that the day of the week is entered and when the medication was last taken. For medications such as warfarin, an anticoagulant, which the patient may be taking at different dose on different days (for example: he/she takes 2.5mg on Monday, Wednesday, and Friday; and 5mg on Sunday, Tuesday, Thursday, and Saturday), enter the daily dose and the days of the week each dose is taken correctly and when the patient last received the medication so the pharmacist and/or physician can schedule it accordingly.
Step 4: Verifying the Medication History

Because the patient’s ability to recall medications, doses, and/or frequency of use may be compromised when the patient is not feeling well and is being admitted to the hospital, verifying the patient’s medications list upon admission, rather than at a later point in the hospital stay, is an essential step to ensuring accuracy and completeness. In addition, verifying medications provides an opportunity to educate the patient on the medications ordered during the hospitalization and to identify any discrepancies from the patient’s perspective.

Note: Medical history technicians and medical assistant personnel are not allowed to educate patients about medications. However, these personnel are strongly encouraged to notify a pharmacist or nurse if they believe the patient would benefit from additional medication discussion/education. See Step 6: Escalation and Communication for further information.

If a patient is unable to participate in a medication interview, other sources may be used to obtain medication histories or clarify conflicting information. No single perfect source exists, and history takers often must use several sources to obtain the best list possible. Which you choose will depend on the availability, feasibility, and/or accessibility of each source. Other sources should never be a substitute for a thorough patient medication interview for those patients able to participate.

Primary source of information:

- Patient/family/caregiver’s verbal report

Secondary sources of information include:

- Patient’s medication bottles
- Medication list on paper from patient/family/caregiver
- Discharge medication list from recent hospitalization
- Patient’s personal health records medication list
- Patient’s community pharmacy or mail order pharmacy fill information
- Patient’s primary care or specialty physicians or outpatient clinic
- Recent nursing home, home health agency, or other post-acute care setting
- Assisted living or group home
- Medication data from Arizona’s health information exchange (Arizona Health-e Connection)
- Arizona’s Controlled Substance Prescription Monitoring Program (CSPMP)—access granted to prescribers and pharmacists
As a best practice, a two-source verification is recommended for patients who are high risk for readmission and/or medication-related problems. For example, for patients on anticoagulants, a double-check verification, or even a triple-check, is often performed to ensure accuracy. First, ask the patient or caregiver about the medications he or she takes; and do not rely on what is listed on the prior visit or a medication list as it can change frequently in response to laboratory results. Second, verify the information with one of the secondary sources listed previously. Third, double-check yourself when entering the information into the medical record; and then ask a colleague to double-check that you have entered it correctly. This degree of attention and vigilance will reduce the risk of error and improve the safety of medication management and quality outcomes.

When you learn new information during medication history verification, the physician should be contacted. The physician should determine if this information will alter the care plan and, if so, subsequent orders can be written with supporting documentation.

For patients who present prescription bottles and/or a medications list, each individual medication and corresponding dosing instructions should be verified, if possible; a patient may be taking a medication differently than reflected on the prescription label. Also, a patient may have forgotten to update his or her personal list with newly prescribed medications.

When obtaining the medication history, if you discover that the patient does not have an accurate and up-to-date medication list, take this opportunity to recommend and reinforce the importance of an accurate list to prevent medication errors and potential harm. Patients, family members, and caregivers should be encouraged to always bring the patient’s medication pill bottles and medication list to all provider appointments and, of course, to the hospital.

The Joint Commission encourages patients to become more informed and involved in their healthcare and you can reinforce this during your encounter with the patient and caregiver. A list of current medications is important during emergencies and should be carried with the patient and shared with their pharmacist, physician, and caregiver. The Joint Commission has created a medication card for patients to list all their prescriptions, over-the-counter medications, vitamins, herbs, diet supplements, and natural remedies taken. Download and print a copy of this card for your patient at: http://www.jointcommission.org/assets/1/18/Speakup_Card_Meds_Ex.pdf.
Step 5: Documenting the Medication History

Now that you have completed your interview with the patient, family member, pharmacy, and/or caregiver, you are ready to document the list of medications into the electronic medical record (EMR). If the patient had a previous visit or has received prescriptions from within the hospital’s network before, this information likely will be available for review.

For each medication the patient takes at home, enter the name of the medication in the section described as “prior-to-admission med” or “home medication.” This typically generates a list of available strengths and dosage forms to add to the list. If the medication is not listed, it may be available for lookup in a “database lookup” maintained by the hospital’s pharmacy informatics department. Sometimes, the medication name cannot be found in the database. For example, the name is unknown by the patient, but he or she does know that the medication is for high blood pressure or that it is a small, round, blue pill. Other examples not found in the database may include custom compounded products, unique supplements, or homeopathic therapy. Enter as much information as possible to help the provider or other staff members complete this portion of the medication history.

Entering the medication name usually defaults to the most common dosage, form, and frequency. Adjust the information as needed to match the patient’s reported regimen. Include information about time of the patient’s last dose and an indication of overall adherence to help the provider understand what the patient is actually taking. Always select/include the clinical indication for the medication, when known. Additional comments about therapy may be entered in available comment sections. For example, “Patient has not refilled in one month due to cost.” Include the source of the medication history for each entry.

Some patients may be taking certain medications with alternate day or time of day dosing. A best-practice recommendation is to enter this as two separate orders. Additional comments or specific instructions may be added as indicated. For example: Warfarin 5mg on Monday, Wednesday, and Friday; and warfarin 7.5 mg on Tuesday, Thursday, Saturday, and Sunday should be entered as two separate warfarin orders with the dose and days of the week that dose is taken. Additional comment may be added that the patient takes alternate warfarin dosing (e.g., “Patient takes two different warfarin doses on alternate days. Complete warfarin schedule is 5 mg on Monday, Wednesday, and Friday and 7.5 mg on Tuesday, Thursday, Saturday, Sunday.”).

If a medication was included in the patient’s profile on a previous visit and is no longer taken by the patient, remove the medication from the list. Always include, or select from a list, the reason why the patient has discontinued the medication, if known. Reasons may include, but are not limited to, allergic response, contraindication, dose adjustment, adverse drug reaction (if so, add to allergy/intolerance list), cost issues, lack of perceived efficacy, and noncompliance.

If you make a medication entry in error, remove the medication from the patient’s history and flag it as an entry error per your institution’s policy.
Step 6: Escalation and Communication

As information is collected during the medication history and subsequent verification, certain situations arise that require escalation to another level. As a best practice, each health system is encouraged to identify which type of situations are to be escalated. This step ensures the highest level of care possible for the patient and is often overlooked in many systems. Communication to the physician, pharmacist, nurse, or social service personnel on the care team may be useful.

It is important to know the roles and responsibilities of the various members of the care team. Each of these members can contribute to the care, management, and outcomes for the patient with identified needs. In addition to the physician, physician extenders, nurses, and pharmacists, there may be case manager; social workers; registered dieticians; physical, occupational, speech, and respiratory therapists; chaplains; and others involved as part of the care team. Requesting a consult often requires a physician order, though not always. Understand what the guidelines are for communicating to each role. Institutions are encouraged to determine how best to generate communication to each discipline. This may include by paper, text, telephone, or through the electronic medical record.

Table 1. Ten Situations That May Require Escalation for Further Review and Possible Action

<table>
<thead>
<tr>
<th>Issues for Escalation</th>
<th>Practitioner</th>
<th>Pharmacist</th>
<th>Nursing</th>
<th>Social Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Potential adverse drug event</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2. Non-formulary medication</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3. Patient needs to use own medication</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
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<tr>
<td>4. High-cost medication identified</td>
<td>X</td>
<td>X</td>
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<td>5. High-risk medication identified</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>6. Unnecessary medication identified</td>
<td>X</td>
<td>X</td>
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<tr>
<td>7. Medication confusion</td>
<td></td>
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<tr>
<td>8. Health literacy issue</td>
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<td></td>
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<tr>
<td>9. Barrier impacting access to medication</td>
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<td></td>
</tr>
<tr>
<td>10. Issues of non-adherence</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Situations That Should Be Escalated or Communicated to Another Member of the Care Team:

Scenario 1: A 62-year-old woman on a fixed income is admitted for hypertensive urgency. She takes Lisinopril at 10 mg twice a day. The patient shared that by cutting her dose in half she is able to stretch her refills from every month to every other month, reducing her out-of-pocket costs. In addition to documenting that the medication prescribed has been taken differently than ordered, you should verbally communicate this information to the physician and pharmacist. In addition, a consult for social services may help in problem solving the financial barrier contributing to the patient’s medication nonadherence.

Scenario 2: A 72-year-old man discharged from the hospital seven days ago on anticoagulation therapy for a diagnosis of lower extremity blood clot presents to the emergency department with rectal bleeding. During the medication history interview, the patient shared that he takes three to four extra-strength aspirin tablets four times a day for arthritic pain. In addition to documenting all medications taken, prescribed and over-the-counter, provide a verbal report to the physician and pharmacist. This information adds to the clinical picture and clinical decision making. In addition, a consultation or escalation to the pharmacist is recommended to identify whether or not this is an ADE that should be reported.
Step 7: Measuring Outcomes

To reach the overarching goal of improved patient care, you must measure the progress made. This includes measuring before, during, and after implementation of change. When planning your improved medication history process, use metrics that will help validate progress within the outcome realms of quality, satisfaction, and cost. A disciplined and methodical focus on data will allow an organization to evaluate its current system, identify opportunities for improvement, and monitor improvement over time.

Examples and tools here will help you develop, measure, and report your quality improvement progress. They include what data to collect, how to collect the data, and how to communicate/display your results. You may adopt these tools completely or adapt them to your organization’s needs.

A. Quality: Reducing medication-related harm in your facility and community is the primary focus of improving medication history processes. This will be evident in a reduction of medication-related errors in the hospital and overall improvement in patient care throughout the continuum. Examples of quantitative metrics that may help you demonstrate progress in achieving your quality goals include but are not limited to:

- Number of medications reviewed and entered
- Types of medications reviewed and entered
- Types of changes made (for example: omissions are medication errors that cannot be detected in most systems without a patient interview)
- Rate of high-risk medication ADEs in the hospital (blood glucose <50 in a patient on insulin, INR >4 in a patient on warfarin or Naloxone administration to a patient on opioids)
- Bleeding rates, such as those due to an OTC agent interaction with an anticoagulant
- Number and types of issues escalated to other health team members
- Length of stay (inpatient)

See the Tools and Resources section for a manual collection tool titled, “F. Medication History Collection Tool,” and its companion “G. How to Compete the Medication History Collection Tool.” This simple manual collection tool was created as a “tick sheet,” and may be used periodically (before, during, and after implementation) to help measure progress. This tool also includes cost (time spent conducting each medication history). Using this tool and methodology to display your results may look something like this (Kramer et al.):

*Figures 2 (left) and 3 (right). Changes Made With the New Process Versus the Old Process*
One hospital system used the “Medication History Collection Tool” over an eight-week period to determine how many changes would be made to a patient’s medication list using the new workflow and training documents. The medication history was originally conducted by a nurse provider in the emergency department. A medication history technician then performed the interview a second time with the same patient. The results are displayed in Figure 4.

**Figure 4. Interviews Conducted by Medication History Technician (MHT)**

Overall, 369 patients had their medication history retaken by an MHT, which resulted in a total of 1,790 medication changes (average of 4.9 changes/patient) made to medication history documentation within the EMR.

Of those 369 patients, 88 (24%) had inpatient orders already placed based on inaccurate medication history documentation, placing them at the highest risk of medication-related harm if the changes had not been made. This subgroup of 88 patients had 516 changes made (5.9 changes/patient) by the MHT to their medication history documentation.

**B. Satisfaction:** Providers, patients, and other care team personnel benefit from having an improved, standardized medication history process. Satisfaction is generally the easiest measurement to collect and communicate. A brief survey serves well as a simple tool for tracking this metric. Distribute your survey to the desired stakeholders pre- and post-implementation and periodically throughout your performance improvement period.

See the **Tools and Resources** section for an example, “H. Staff/Provider Satisfaction Survey.”

_Satisfaction is generally the easiest measurement to collect and communicate._
C. Cost: Which areas will experience reduction in overall costs? Which costs will increase? Evaluate the time and wages of the resources involved in the development, implementation, and ongoing evaluation of the program. This may include staff hiring, onboarding/training, and communication to stakeholders when calculating the return on investment. Potential cost savings, incurred costs, and cost avoidance include:

1. **Reduction in provider time**—Consider performing a brief time study of your providers to include all activities related to admission medication history including: patient interviews; admission medication reconciliation; medication clarification with nurse, pharmacist, patient, and outside providers; discharge medication reconciliation; and rework. Reports find an average of 10 to 15 minutes saved per admission.\(^6\)

2. **Reduction in nursing time** (if your organization is using medication history technicians or pharmacy supported services)—The literature reports up to 60 minutes saved with a complete medication reconciliation program. The time saved is based on nurse time for interviews and clarification of medication orders, which remain unclear even after the medication history has been entered.\(^7\)

3. **Reduction in pharmacist time**—This is time needed to rework medication orders based on obtaining inaccurate and/or incomplete medication histories. Some organizations (unpublished data) reported at least five minutes per admission just to clarify one order. Consider the benefit of having a pharmacist use this time for patient-directed activities instead.

4. **Reduction in ADEs**—One organization decreased inpatient care costs by 30 percent when no medication reconciliation errors were reported over 24 months.\(^8\)

5. **Time it takes to conduct a medication history**—This may help indicate the cost of the program or, at the least, the day-to-day aspect of resources. Consider using the “Medication History Collection Tool” in the Tools and Resources section of this toolkit to help quantify the duration. Over time, as the workflow process and training are adopted, the cost of the program should continue to decline. Depending on the population and the number of medications per patient, the duration may range from five minutes (patient reporting no medications) to 60 minutes (patient on more than 15 medications or has medication confusion).

6. **Other**—Be creative here!
   a) In the categories of orthopedic and cardiac surgeries, when it instituted a process to improve patient admission histories, one organization reduced readmissions—secondary to a reduction in bleeding events—due to identification of those OTC agents that increase the risk of bleeding. These medications (e.g., vitamin E, fish oil, saw palmetto, glucosamine) were discontinued by the inpatient care team and resulted in improved patient care and reduced penalties from CMS for readmissions.
   b) Integrated healthcare systems may promote the use of their owned/operated outpatient pharmacies during the medication history process. Increased rates of prescription capture may be attributable to this aspect of the standardized process.
   c) Another organization improved throughput times in the emergency department and observation units, thereby increasing the capacity to take on more patients.
Tools and Resources

A. Improve Your Interview Skills

Talking with the patients about the medications they take may seem an easy task, however, it often proves to be a challenge. Because they are in the hospital, you should expect that they are ill, anxious, scared, and exhausted. Developing your skills as an interviewer will assist you greatly in this task. Begin by learning more about health literacy and its impact on obtaining a medication history from a patient or caregiver.

Health literacy is defined as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions (US Congress).” According to the 2002 American Medical Association report, “Poor health literacy is a stronger predictor of a person’s health than age, income, employment status, education level, and race.” The impact of low health literacy can result in poor medication adherence, unnecessary emergency department visits, increase in hospital readmissions, longer hospital stays, and higher mortality (Center for Health Care Strategies, 2013).

Figure 5. Implications of Health Literacy

Compared to those with proficient health literacy, adults with low health literacy experience:

- 4 times higher healthcare costs
- 6% more hospital visits
- 2-day longer hospital stays


Who has low health literacy? According to the Center for Health Care Strategies, approximately 90 million Americans have low health literacy. Populations that are more likely to experience low health literacy are minority, elderly, homeless, and low income. However, experts recommend that providers assume that every individual has some difficulty understanding healthcare information.

Common observable signs that a person may have limited health literacy levels:

- The patient reads slowly.
- The patient experiences difficulty completing hospital forms.
- According to the primary care physician, the patient frequently misses appointments.
- According to the pharmacy, the patient is frequently late with refilling medications.
- The patient identifies pills by looking at them rather than reading labels.
Two simple questions you can ask to help assess the patient’s level of health literacy:

1. Medical terms can be complicated and many people find them difficult to understand. Do you ever get help from others in reading prescription labels, completing insurance forms, or using health information materials?
2. What do you like to read?

Three simple interaction techniques to address low health literacy:

1. Ask open-ended questions. This opens the door for a deeper conversation that builds empathy with the patient, rather than the patient feeling interrogated or judged. Open-ended questions encourage the patient to do most of the talking, allowing the provider to get a better understanding of how well the patient understands and adheres to the medication they should be taking. One example of an open-ended question is, “Can you tell me more about what kind of medications you are taking at home?”

2. Use reflective listening as a way of responding to the patient and building empathy. Examples of reflective listening are, “It sounds like you are not sure why you are taking this blood thinner medication,” or “What I think I hear you saying is that you have been taking this blood pressure medication for a long time but you don’t feel it is working any longer.”

3. Summarize what your heard after each medication and before moving onto the next one to reduce the chance of miscommunication and to ensure you are capturing each medication correctly. An example of a summary is, “Over the past three months you have been taking aspirin to address the muscle cramps you think are a side effect of the cholesterol-lowering medication.”
B. Improve Your Knowledge About Medications

National Patient Safety Goals

The National Patient Safety Goals (NPSGs) focus on the risk points of medication reconciliation. The elements of performance in this NPSG are designed to help organizations reduce negative patient outcomes associated with medication discrepancies. This process begins upon admission when obtaining and documenting an accurate and complete medication history, which is vital to the integrity of subsequent processes. Maintaining and communicating accurate patient medication information is NPSG 03.06.01, effective January 1, 2017. https://www.jointcommission.org/hap_2017_npsgs/

National Action Plan for Adverse Drug Event Prevention

The National Action Plan for Adverse Drug Event Prevention focuses on common, clinically significant, preventable, and measurable ADEs. Most clinically significant ADEs occur from supra-therapeutic effects due to narrow therapeutic index medications, which require very close monitoring. A key group of drug classes—anticoagulants, hypoglycemic agents, and opioids—are particularly dangerous and lead to largely preventable ADEs. For these reasons, they are high-priority targets for national and local ADE prevention efforts. With a growing senior population taking many chronic prescription medications and seeing multiple providers, medication safety has become a critical component of the care coordination and transition of patients across all healthcare settings. https://health.gov/hcq/pdfs/ADE-Action-Plan-508c.pdf?_ga=1.42221152.413057011.1461601063

The data in Figures 6 and 7 represent hospital readmissions linked to high-risk medication classes among Medicare FFS beneficiaries and compare Arizona to the nation. Beneficiaries taking anticoagulants have four times more readmissions than the general Medicare FFS population (Source: Medicare FFS 2013 claims data).

Figures 6 and 7, HRM Classes Among Medicare FFS Beneficiaries
The Centers for Disease Control and Prevention (CDC) Fact Sheets

For Parents: Young Children and Adverse Drug Events—https://www.cdc.gov/medicationsafety/parents_childrenadversedrugevents.html
Adult and Older Adult Adverse Drug Events—https://www.cdc.gov/medicationsafety/adult_adversedrugevents.html
Tips to Prevent Poisonings—https://www.cdc.gov/homeandrecreationalsafety/poisoning/preventiontips.htm

The Institute for Safe Medication Practices (ISMP)

The List of High-Alert Medications in Acute Care Settings is a list of high-alert medications that hold a higher risk of causing significant patient harm when used in error. Use this list to take special safeguards to ensure that the medications are obtained and documented in the medical record correctly and validated from second or third sources, as indicated. Lists for various practice sites such as acute care, community and ambulatory and long-term care setting can help you determine which medications require special safeguards to reduce the risk of errors. http://ismp.org/Tools/institutionalhighAlert.asp

The List of Confused Drug Names is a list created by ISMP to include look-alike and sound-alike name pairs. For example, two drugs with similar names that can lead to confusion and cause prescribing errors are hydralazine for hypertension and congestive heart failure, and hydroxyzine for allergic itching and anxiety. This list can help you determine which medications require special safeguards to reduce risk of errors. Brand name products appear in black and generic/other products appear in red. https://www.ismp.org/tools/confuseddrugnames.pdf

The list of Error-Prone Abbreviations, Symbols, and Dose Designations includes items reported as being frequently misinterpreted and involved in harmful medication errors. They should never be used when communicating medical information. This includes telephone or verbal communication, computer-generated labels or labels for drug storage bins, medication administration records, and computer order entry screens. http://ismp.org/Tools/errorproneabbreviations.pdf

The American Geriatrics Society (AGS)

Beers Criteria, published by AGS, lists potentially inappropriate medications for older adults who are not receiving hospice or palliative care and is one of the most frequently cited reference tools in the field of geriatrics. The AGS also unveiled a suite of new companion resources—including a list of alternative therapies for potentially inappropriate medications and more detailed guidance on best practices for implementing recommendations—all published online and available for free. http://geriatricscareonline.org/toc/american-geriatrics-society-updated-beers-criteria-for-potentially-inappropriate-medication-use-in-older-adults/CL001

U.S. Food & Drug Administration (FDA)

Drug Information for Consumers includes FDA-approved medication guides that provide information for patients on how to safely use certain drugs and avoid serious adverse events. http://www.fda.gov/Drugs/ResourcesForYou/Consumers/default.htm

Education Resources are resources intended for use by educators, healthcare professionals, and consumers and are available in English and Spanish. Topics include tips on taking medicines properly as one ages, the importance of talking to one’s healthcare professionals, what to know about prescription medicines, and how to take prescription and OTC medicines properly. http://www.fda.gov/Drugs/ResourcesForYou/Consumers/ucm297002.htm
C. Sample Job Description: Medication History Technician

Hospital Name Here seeks a full-time medication history technician to join the hospital pharmacy team. The pharmacy operates 24 hours a day, 7 days a week providing inpatient and outpatient services. Hospital pharmacy experience is preferred.

**Job Summary:** This position will work under the supervision of the pharmacist and other pharmacy personnel. Performance includes obtaining, verifying, and documenting medication history; drug distribution and refills; purchasing, packaging, distribution, and record keeping of pharmaceutical supplies; and other duties as required. Must demonstrate the knowledge and skills necessary to provide care appropriate to all ages of patients served.

**Essential Functions**

1. Upon admission to the hospital and under the supervision of the pharmacist, obtains a complete and accurate medication history for selected patient populations.
2. Upon obtaining a complete medication history, documents the medications correctly according to hospital guidelines, communicates outstanding issues, and escalates risk issues to the physician, nurse, or pharmacist.
3. Selects and/or prepares medications, under direct supervision, as indicated on the patient medication orders. Places medications in patient boxes or in designated area for pharmacist to check, sends/delivers medications to nursing units as required. May investigate missing medication requests.
4. Charges/credits patients for medications and intravenous solutions as appropriate. Restocks unused and credited returned medications. May also prepare the daily bank deposit and financial reports, maintain databases, and troubleshoot automated technology malfunctions.
5. Attends to customers and answers telephones in a courteous and timely manner. Serves as a liaison between the customer and the pharmacist. May also take requests for prescription refills and obtain necessary authorizations.
6. Identifies medications and other items for reorder as necessary to maintain a continuous inventory of medications and supplies. Receives, checks in, and restocks medications ordered through wholesaler and other vendors. Assesses practical ways to deal with shorted items and short-dated or unusable items.
7. Repackages bulk medications into unit-of-use packaging. Completes accurate documentation of medications repackaged.
8. Performs quality control activities in a timely manner. Completes documentation on refrigerator temperatures and equipment maintenance activities as required.
9. May use automated dispensing technology or requisition to restock medications to nursing and ancillary areas after they are checked by a pharmacist. Restocks medications to all areas outside automated dispensing technology, which may include but not be limited to trays, code carts, and emergency boxes. Investigates discrepancies in automated dispensing technology.

**Minimum Qualifications**

Requires the pharmacy technician trainee licensure in the state of practice (where applicable). Must possess good organizational, problem-solving, and computer skills. Consistently demonstrates an ability to assess a situation, consider alternatives, and choose the appropriate course of action. Must have good written and verbal communication skills for interfacing with all levels of staff, physicians, and patients.

**Preferred Qualifications**

Knowledge of medication management information system software and automated dispensing systems. Additional related education and/or experience preferred.
## D. Sample Competency Validation Tool

### Obtaining and Documenting Medication History

**Directions:** To be used by preceptors in pharmacy or nursing to evaluate personnel obtaining and documenting medication history. This checklist evaluates performance and competency using both direct and indirect observations. Include in employee’s personnel file when completed.

```
Name: ________________________________          Facility/Unit: __________________________

<table>
<thead>
<tr>
<th>Direct Observation</th>
<th>S</th>
<th>U</th>
<th>NP</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to visit, evaluated need for accessed interpreter services.</td>
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<tr>
<td>Reviewed medical record for most recent medication history from a prior visit, if available.</td>
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<tr>
<td>Gel in/wash out (observed other contact precautions), as indicated.</td>
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<tr>
<td>Acknowledged patient and used two patient identifiers upon room entry.</td>
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<tr>
<td>Introduced himself/herself to patient and/or caregiver/family member in room.</td>
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<tr>
<td>Explained intent of visit and estimated duration based on number of medications.</td>
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<tr>
<td>Obtained patient’s permission to discuss medications while others are present in the room.</td>
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<tr>
<td>Home medications entered into computer while in patient’s room or on designated worksheet.</td>
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<tr>
<td>Asked open-ended questions and appropriate follow-up questions.</td>
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<tr>
<td>Asked the patient about any over the counter and herbal medications taken.</td>
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<tr>
<td>Specifically asked about creams, eye or ear drops, patches, injectable meds and inhalers.</td>
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<tr>
<td>Correctly categorized medications, scheduled, prn, stopped, or short-term.</td>
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</tr>
<tr>
<td>Used appropriate medication references to identify drug names and doses, and/or to verify sound-alike medications.</td>
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</tr>
<tr>
<td>Thanked the patient and/or caregiver, and asked if there were any questions before exiting the room.</td>
<td></td>
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</tbody>
</table>
```
<table>
<thead>
<tr>
<th>Direct Observation</th>
<th>S</th>
<th>U</th>
<th>NP</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provided verification of medications by contacting patient’s pharmacy, primary physician, assisted living/nursing home/home health agency, and/or family/caregiver, as indicated.</td>
<td></td>
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</tr>
<tr>
<td>Escalated issues identified to supervisor, pharmacist, charge nurse and/or physician.</td>
<td></td>
<td></td>
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<tr>
<td>Documented allergies and reactions.</td>
<td></td>
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</tr>
<tr>
<td>Documented pharmacy preference correctly.</td>
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<tr>
<td>Documented source of medication information for each medication.</td>
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</tr>
<tr>
<td>Documented last dose for each medication.</td>
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<td></td>
</tr>
<tr>
<td>Selected correct medication for each entry.</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Documented drug name, formulation, dose, route, frequency, indication, and last dose taken for each routine and prn medication.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Documented special instructions, sliding scale, parameters, and/or additional comments, as indicated for each medication.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Documented follow-up plan, relevant contact information, names and phone numbers, and barriers to obtaining a complete medication history.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Documented referral or consultation for identified barriers to obtaining and/or adhering to medication regimen to supervisor, pharmacist, charge nurse, physician, or social services.</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Initials</th>
<th>Name of Validator</th>
<th>Initials</th>
<th>Name of Validator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

**ACTION PLAN (If necessary)**

EMPLOYEE: ________________________________  DATE: ____________________________

SUPERVISOR: _______________________________  DATE: ____________________________
### E. Medication History Patient Interview Checklist

For each medication (including prescription, over the counter (OTC), herbal, etc.) ask:

<table>
<thead>
<tr>
<th><strong>Medication name</strong></th>
<th>(What is the name of your medicine?)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Formulation</strong></td>
<td>(Extended release vs. immediate release, ointment vs. cream)</td>
</tr>
<tr>
<td><strong>Strength</strong></td>
<td>(What strength is it? For example 10 mg?)</td>
</tr>
<tr>
<td><strong>Dose</strong></td>
<td>(How much or how many tablets do you take with each dose?)</td>
</tr>
<tr>
<td><strong>Route</strong></td>
<td>(By mouth vs. on your skin vs. under your tongue, etc)</td>
</tr>
<tr>
<td><strong>Frequency</strong></td>
<td>(How often do you use this medicine in a day? Any specific times? (Sinemet, isosorbide))</td>
</tr>
<tr>
<td><strong>Indication</strong></td>
<td>(What do you use this medicine for?)</td>
</tr>
<tr>
<td><strong>Last dose taken</strong></td>
<td>(When did you last use/take this medicine?)</td>
</tr>
<tr>
<td><strong>Adherence:</strong></td>
<td>How often would you say you miss a dose?</td>
</tr>
<tr>
<td></td>
<td>Why do you miss the dose? Do you forget, or does it make you feel badly, or some other reason?</td>
</tr>
</tbody>
</table>

#### Patient Specific Information

- **Pharmacy of Record:** What pharmacy do you use? Local? Mail order?
- Which pharmacy would you like any new “discharge” medications sent to? (Mark as default pharmacy)
- For safety purposes we like to double check meds, do you mind if we call your pharmacy so we have very accurate information? I may come back to clarify with you if needed.

- **Allergies or Intolerances:** Have you ever had to stop taking a medicine because of a reaction to it?
- What happened when you took it?

- **Height/Weight** (enter as un-measured): Dry Weight? (for patients with heart failure or on diuretic therapy)

Specifically ask about the following (as patients often leave out this information)

- **Over the counter** (OTC) products (allergy medicine, etc.)
- **Pain medication** (when you have a headache, what do you take? How often?)
- **Herbals, vitamins, supplement products** (Do you take any natural products?)
- **Drops** (Any eye or ear drops?)
- **Skin products** (Do you put any medicine on your skin? Ointments, creams, patches?)
- **Nasal products** (Do you use any medicines in your nose? Sprays, illicit drugs?)
- **Inhalation products** (Do you use any inhalers, powder, diskus or nebulizer, smoke, vape, illicit drugs?)
- **Injectable products** (Do you inject anything? Insulin, rheumatoid medicine, illicit drugs?)

- **Short course of medicine in the past month** (Any antibiotic or steroid course?)

- **Prescribed medicine but not taking** (Have you been prescribed any medicine but not taking it? What keeps you from taking this?)

- Do you get any samples from your doctor’s office? Any study medications?
- Do you take anything else that we have not covered today?

#### Issues identified for escalation (document and communicate)

<table>
<thead>
<tr>
<th><strong>Potential adverse drug event</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Arizona Controlled Substance Report needed (PMP)</strong></td>
</tr>
<tr>
<td><strong>Medication non-adherence/confusion</strong></td>
</tr>
<tr>
<td><strong>Non-formulary medication</strong></td>
</tr>
<tr>
<td><strong>Need for patient to use own med</strong></td>
</tr>
<tr>
<td><strong>“Triple Check” medication</strong></td>
</tr>
<tr>
<td><strong>Potential health literacy issues</strong></td>
</tr>
<tr>
<td><strong>Change in home medication list since provider reviewed</strong></td>
</tr>
</tbody>
</table>

**NOTES:**
### MEDICATION HISTORY COLLECTION TOOL

**Patient Identifier:** __________  **Act #:_______**  **Hospital:** 1=XXX  2=XXX  3=XXX  4=XXX  5=XXX  **Date:** __/__/201__

**Location of Med History Completion:** 1=ED  2=Observation  3=General Unit  4=ICU  5=Same Day Surgery  **Informed Patient of Onsite Pharmacy?** 0=yes  1=no

**Total Time Spent:** _____ minutes  **Were the admission medications ordered prior to completion of the medication history?** 0=yes  1=no

<table>
<thead>
<tr>
<th>Total # Entered</th>
<th>Medication History Source:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meds ______</td>
<td>Circle: P=Primary  S=Secondary  T=Tertiary  0=None</td>
</tr>
<tr>
<td>Rx Meds ______</td>
<td>1= Patient interview (P / S / T)</td>
</tr>
<tr>
<td>OTC Agents _____</td>
<td>2= Family/caregiver interview (P / S / T)</td>
</tr>
<tr>
<td>8= Controlled substance monitoring program (P / S / T)</td>
<td></td>
</tr>
<tr>
<td>9= Anticoagulation clinic (P / S / T)</td>
<td></td>
</tr>
<tr>
<td>10= Health plan (P / S / T)</td>
<td></td>
</tr>
<tr>
<td>11= Patient’s own med list (P / S / T)</td>
<td></td>
</tr>
<tr>
<td>12= Previous facility med list (P / S / T)</td>
<td></td>
</tr>
<tr>
<td>13= Fill bottles from home (P / S / T)</td>
<td></td>
</tr>
<tr>
<td>14= Other source (P / S / T)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medication History Completed By:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0=Nurse  1=MD  2=Pharmacy Staff  3=Other</td>
</tr>
</tbody>
</table>

| Medication History Collection Tool Completed On: Date/Time ________ |

**Number of Medication Changes Made:** ________

(For example: Each change of any element of the order counts as one change: name, formulation, dose, frequency, indication, parameters or route. One medication can have multiple changes made)

**Type of Changes Made:**

(For example, if two extra medications are removed, circle 0 and mark x2)

<table>
<thead>
<tr>
<th>0= Extra med removed</th>
<th>6= Formulation changed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1= Omitted med added</td>
<td>7= Adherence issues identified</td>
</tr>
<tr>
<td>2= Duplicate med removed/corrected</td>
<td>8= Wrong drug removed</td>
</tr>
<tr>
<td>3= Incomplete order clarified</td>
<td>9= Duration changed (start/stop dates)</td>
</tr>
<tr>
<td>4= Dose changed</td>
<td>10= None</td>
</tr>
<tr>
<td>5= Frequency changed</td>
<td></td>
</tr>
</tbody>
</table>

**Other Issues Identified (Circle):**

<table>
<thead>
<tr>
<th>0= Potential adverse drug event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1= Non-formulary medication</td>
</tr>
<tr>
<td>2= Patient needs to use own med</td>
</tr>
<tr>
<td>3= Allergies/intolerances added</td>
</tr>
<tr>
<td>4= Allergic reaction type added</td>
</tr>
<tr>
<td>5= High cost med identified</td>
</tr>
<tr>
<td>6= Unnecessary med identified</td>
</tr>
<tr>
<td>7= Health literacy issues</td>
</tr>
<tr>
<td>8= Medication confusion</td>
</tr>
<tr>
<td>9= High risk medication escalated</td>
</tr>
</tbody>
</table>

Upon completion of medication history, was provider notification of discrepancies necessary? (Circle the communication method selected): 0=Webpage  1=Discussed with nurse  2=Discussed with provider  3= Discussed with pharmacist  4=Documented in medical record  5=No

**Additional Comments:**

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This material was prepared by Health Services Advisory Group, the Medicare Quality Improvement Organization for Arizona, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy. Publication No. 021 13/06/23 02/20/23

Medication History Collection Tool courtesy of Nicole Murdock, PharmD, BCPS, used with permission.
G. How to Complete the Medication History Collection Tool

**Patient Identifier**: Assign a number to each person conducting medication histories in your facility who will be filling out these forms. You can use this tool to measure outcomes, productivity, and performance of team members as part of continual competencies.

**Account Number**: Patient identifier if additional review of certain cases is needed.

**Hospital**: For multiple-site projects or multiple departments, service areas, or units within one facility.

**Date**: The date the medication history was conducted.

**Location of Medication History**: Provides the option of tracking productivity and performance in different areas of the hospital which may also help reflect changes in patient flow.

**Informed Patient of On-Site Pharmacy**: If your organization has an outpatient pharmacy, you may encourage patients and caregivers to use this service upon discharge and then document the number of prescriptions filled as an additional cost benefit to your program.

**Total Time Spent**: This includes time spent for preparation, interview, second and third source verification, documentation, and communication time care team members for clarification or escalation purposes. The time should reflect time spent directly on each patient’s medication history work and not time, such as waiting to hear back from a pharmacy or clinic.

**Medication History Source**: You may use one or more sources to collect the best medication history possible. It is considered best practice to use at least two different sources to confirm accurate information. Please circle P for the primary, S for the secondary, and T for the tertiary source. Write in additional resources used under 14=Other sources.

**If medication history is completed by someone other than you prior to this encounter:**

1) Fill out this section if another healthcare personnel attempted to complete the medication history for this patient prior to your work.

2) If it was completed or attempted before you, by what type of personnel (nurse, physician, other provider [includes physician assistant, nurse practitioner, or medical assistant])? You may select multiple providers if more than one type has attempted to conduct the medication history patient interview prior to you.

3) Number of medication changes made. This includes any change made to the previously attempted medication list. For example, change in frequency of one medication from once daily to twice daily, removal of a medication or addition of a medication which was not on the list, each qualify as a change made.
   i. Indicate the type of change made for each medication. For example, if you removed a medication from the list that the patient is not taking, circle 0=extra med removed.
   ii. If you removed three medications from the list, circle 0=extra med removed and indicate X3 next to it.

**Other Issues Identified**: The intention in using a standardized process for obtaining a medication history is to elevate the personnel responsible to their highest functioning levels. An important aspect of this elevated practice is understanding which issues warrant escalation to other disciplines. Issues identified in the section including 0 through 9 should be communicated/escalated for appropriate follow-up to the appropriate provider, pharmacist, nursing, or social services.
H. Staff/Provider Satisfaction Evaluation

To help us measure the change in satisfaction related to improving the processes related to obtaining medication histories, please answer the following questions.

I believe that the process for medication history has improved with the implementation of pharmacy technicians conducting the medication histories in the emergency department.

I would like pharmacy technicians to conduct all medication histories in the hospital.

I believe the process implemented for medication history conducted by pharmacy technicians has improved the accuracy of medication histories documented in our facility.

I believe pharmacy services has the best personnel to conduct medication histories.
Citations


2. Institute of Medicine: To Err is Human: Building a Safer Health System. 2000.


Additional Resources


