Optimizing Older Adults' Medication Use

Nurses can partner with caregivers to promote safe medication administration.

This article is the third in a series, *Supporting Family Caregivers in the 4Ms of an Age-Friendly Health System*, published in collaboration with the AARP Public Policy Institute as part of the ongoing *Supporting Family Caregivers: No Longer Home Alone* series. The 4Ms of an Age-Friendly Health System (What Matters, Medication, Mentation, and Mobility) is an evidence-based framework for assessing and acting on critical issues in the care of older adults across settings and transitions of care. Engaging the health care team, including older adults and their family caregivers, with the 4Ms framework can help to ensure that every older adult gets the best care possible, is not harmed by health care, and is satisfied with the care they receive.

The articles in this series present considerations for implementing the 4Ms framework in the inpatient hospital setting and incorporating family caregivers in doing so. Resources for both nurses and family caregivers, including a series of accompanying videos developed by AARP and the Rush Center for Excellence in Aging and funded by The John A. Hartford Foundation, are also provided. Nurses should read the articles first, so they understand how best to help family caregivers. Then they can refer caregivers to the informational tear sheet—*Information for Family Caregivers*—and instructional videos, encouraging them to ask questions. For additional information, see *Resources for Nurses*.

Many older adults have multiple chronic conditions that require complex medication regimens. Consequently, 50% of family caregivers report direct involvement with medication administration in the home, but with minimal support.[1] Given that many caregivers are older adults themselves,[1] managing these complex regimens can be difficult and stressful.

To promote medication safety and to ensure that older adults are receiving age-appropriate care, The John A. Hartford Foundation and the Institute for Healthcare Improvement, in partnership with the American Hospital Association and the Catholic Health Association of the United States, developed the Age-Friendly Health Systems initiative. An Age-Friendly Health System implements the evidence-based 4Ms framework, which encompasses four core elements of care to be assessed and acted on: What Matters, Medication, Mentation, and Mobility. The health care team can use the framework across the health system to ensure that the plan of care aligns with What Matters to the older adult and family caregiver.[2] This article, the third in a series on the 4Ms, presents strategies for assessing and acting on hospitalized older adults' medications in partnership with family caregivers, tips to help caregivers manage medications at home, and resources for clinicians and caregivers.

BACKGROUND

Older adults often have multiple medical conditions requiring multiple specialists and prescriptions. A recent national population-based study found that 36% of older adults take five or more prescription medications daily to manage chronic illnesses.[3] Additionally, 38% use over-the-counter (OTC) medications and 64% use dietary supplements.[3]

The risk of harm from adverse drug events becomes greater with the number of medications used.[4] This risk is compounded when the medications prescribed are potentially inappropriate medications (PIMs)—those known to cause harm, leading to increased hospitalizations and health care costs.[5] Polypharmacy has also been associated with poor health outcomes, including hospital readmissions, lower medication adherence, and increased mortality.[6,7] (It should be noted, however, that the quality of medication prescribing cannot be determined by the medication count alone; older adults with multiple medications can still have high-quality and appropriate prescribing.)

Overprescribing in older adults is driven by direct-to-consumer advertising and older adults'

beliefs and expectations about medication-based solutions.[8,9] Clinician factors contributing to polypharmacy include lack of specialized training in geriatrics and pressure to prescribe in order to earn high patient satisfaction ratings.[10,11] The prescribing cascade, defined as the use of one medication to treat a condition inadvertently caused by another, is another significant contributor to overprescribing in older adults.[12] These factors create barriers to safe prescribing practices and reducing polypharmacy.

Clinicians are aware of the complexity polypharmacy adds to the care of older adults, but its burden is not always recognized and is important to consider. Family caregivers report that medication administration is stressful because of the fear of making mistakes and the time-consuming nature of the task.[13] Older adults and caregivers must also navigate issues related to obtaining medications (such as cost, insurance, and coordinating with pharmacies) and using medications (such as remembering, organizing, scheduling, and administering them).[14] An increased number of medications amplifies these issues and adds significant caregiver burden.

Medication safety and efficacy are affected by the aging process. Normal aging is associated with physiological changes, such as decreased liver size and blood flow and decreased renal function, that affect medication absorption, distribution, metabolism, and clearance.[15] Other physiological changes, such as changes to cardiovascular system structure and function and to the central nervous system, may impact medication tolerability and increase the risk of adverse effects.[15] Normal age-related changes in mentation and mobility require consideration of the lowest recommended dose to reduce adverse effects and improve tolerability.[16]

Medication adverse effects, potential long-term adverse effects, and effectiveness are strongly affected by adherence—which is influenced not only by medication access and ability to use the medication as prescribed, but also by the older adult's perceived benefit of a medication, health beliefs, and attitude toward a medication.[17] As more older adults depend on their caregivers' support for medication management, it is essential to recognize the intricate balance caregivers must maintain between respecting an older adult's hesitation to take a medication as prescribed and ensuring they follow clinicians' recommendations. Additionally, for many older adults, loss of independence in medication management can result in anxiety, negative thoughts, and low self-esteem, potentially causing conflict with their caregivers.[18]

A nurse discusses medication side effects with an older adult and family caregiver. Photo courtesy of the AARP Public Policy Institute.

ASSESS MEDICATIONS

Assessing medications in the inpatient setting requires a team approach that includes a nurse, prescribing clinician, and pharmacist in partnership with the older adult and the family caregiver. Collaboratively, the health care team assesses medications through the lens of the 4Ms framework, aiming to ensure that the medications are prescribed at age-appropriate doses and do not unnecessarily put the older adult at increased risk for harm.

The first step in assessing medications is to conduct medication reconciliation, which should be completed upon admission and at each care transition during the hospital stay.[19] This necessitates obtaining an accurate list of the medications the older adult currently takes.[4] Family caregivers are instrumental in keeping an updated list of medications and are frequently its sole source.[20] The nurse can guide the family caregiver in organizing the medication list—which should include start date, generic and brand name, indication, dose, and prescriber—and remind the caregiver to bring the list to the hospital and to all clinician appointments. The nurse should also ask about OTC medications the older adult is taking, as well as OTC supplements, as nearly one-quarter of older adults fail to inform their prescribing clinician about the use of these products.[21]

The next step is to review the list for medications that are considered high risk for older adults.[22] These can be identified by using tools such as the American Geriatrics Society (AGS) Beers Criteria[23] or the STOPP/START criteria.[24] It is essential that nurses and prescribing clinicians familiarize them-

Table 1. A Deprescribing Framework[28]

Step	Description
Step 1: Current medications	Conduct medication reconciliation to identify medication list and corresponding indications.
Step 2: Elevated risk	Identify medications contributing to patients' risk.
Step 3: Assessment	Assess each medication for its current and future benefit relative to current or future risk.
Step 4: Sorting	Target and prioritize medication for discontinuation.
Step 5: Elimination	Create and implement a plan to eliminate target medications.

selves with these tools in order to recognize potentially harmful medications and inappropriate doses that are routinely prescribed for older adults.

Identifying the high-risk medications an older adult is taking requires clear communication between clinicians, older adults, and caregivers, and this collaboration supports shared decision-making. The nurse can educate the caregiver about high-risk drug categories for older adults, including but not limited to benzodiazepines, nonsteroidal antiinflammatory drugs, antihistamines, tricyclic antidepressants, anticoagulants, anticholinergics, opioids, antipsychotics, and all prescription and OTC sleep sedatives or sleep medications.[25] It is important to explain to caregivers that even though these medications are considered high risk, they are still sometimes necessary and appropriate to prescribe. If the older adult is prescribed one or more high-risk medications, the caregiver must monitor for any adverse effects or new symptoms and report them to the clinician as soon as possible.

Nurses play a vital role in assessing family caregivers for problems with at-home medication administration. Is the older adult having issues swallowing certain medications? Could a switch be made to an alternate form, such as a chewable tablet, a patch, or an oral liquid?[26] Is the older adult receiving injections? Is the caregiver experiencing any difficulty preparing the dose?

Nurses and family caregivers can work together in attending to the effects of medications. For example, if the older adult is taking oral hypoglycemic medications or insulin, the caregiver has the added responsibility of tracking blood sugar levels and watching for signs and symptoms of hypoglycemia. The nurse should ensure that the caregiver has the necessary supplies and knowledge to successfully complete these tasks. Similarly, if the older adult is taking antihypertensive agents, the nurse can assess whether the caregiver has access to a blood pressure monitor at home and confirm that the caregiver knows the blood pressure target range.

ACT ON MEDICATIONS

In the 4Ms framework, acting on medications includes promoting safe medication use by deprescribing and/or reducing doses of high-risk medications. This process needs to be person centered and align with What Matters to the older adult and family caregiver.[22]

A key step is to understand the older adult's goals of care and health care priorities.[22] The nurse can ask the older adult what matters to them regarding their health and whether any of their medications interfere with what is important to them, such as babysitting a grandchild or taking a morning walk with a friend. The nurse would then identify any high-risk medications such as opioids or benzodiazepines, which can lead to confusion or an increased risk of falls,[27] impeding the older adult's ability to engage in What Matters. The caregiver can also tell the nurse how medications are affecting the older adult and share any concerns with the health care team.

When nurses identify high-risk medications that are interfering with the older adult's goals of care, they can act on this by suggesting that the prescribing clinician discuss deprescribing with the older adult and caregiver. Using the 4Ms framework as a guide, the health care team can consider deprescribing or reducing the doses of those medications that might interfere with What Matters, Mentation, and/or Mobility.

Deprescribing is a systematic process of identifying and then decreasing or withdrawing an unnecessary medication.[28] A medication is considered unnecessary when its potential harm outweighs its benefits to the older adult's health and well-being.[28] Deprescribing is influenced by clinicians' professional judgment and older adults' specific needs. A deprescribing framework, developed by Scott and colleagues, is summarized in Table 1.[28]

Deprescribing is best supported by interprofessional collaboration. For example, including a pharmacist in interprofessional rounds improves

Information for Family Caregivers

Tips for Medication Safety and Management After Hospitalization

- Before the older adult is discharged, a member of the health care team should review the person's medications with you. Some may be new, and others may no longer be needed. Questions to ask:
  - What is this medication for?
  - How often should this medication be given?
  - What do I need to monitor or watch for?
  - How does using (or no longer using) this medication support what matters most to the person I care for?
- If medication cost is a concern, ask the hospital social worker if resources are available to help decrease the cost.
- Be sure to organize the older adult's medications and give them on schedule. The following strategies may be helpful:
  - Use a pillbox organizer to store the medications for the week.
  - Write out a schedule of which medications are to be taken with meals or on an empty stomach and which are to be taken once a day or more often.
  - Coordinate the medication schedule with other daily activities, such as mealtime or tooth-brushing.
- Monitor the older adult for new symptoms and report these to the health care team as soon as possible.
- Some high-risk medications—such as blood thinners; antipsychotics; opioids; and medications used to treat seizures, pain, diabetes, and high blood pressure—can cause unpleasant or harmful side effects. Over-the-counter drugs may have side effects, too.
- Use your pharmacy for support if you have medication questions or trouble paying for medications. You can also work with your pharmacy to pick up all refills on the same day.

Resources to Explore

- HealthinAging.org: Medications and Older Adults (www.healthinaging.org/medications-older-adults)
- Family Caregiver Alliance: Caregiver's Guide to Medications and Aging (www.caregiver.org/resource/caregiver%CA%BCs-guide-medications-and-aging)
- Food and Drug Administration: Medicines and You: A Guide for Older Adults (www.fda.gov/drugs/resources-you-drugs/medicines-and-you-guide-older-adults)

A family caregiver instructional video about medication management can be found on AARP's website:

What to Know About Medication
http://links.lww.com/AJN/A219

For additional information, the AARP Public Policy Institute's Home Alone Alliance website offers publications, training webinars, blog posts, and videos for family caregivers: www.aarp.org/ppi/initiatives/home-alone-alliance.

Resources for Nurses

What to Know About Medication
http://links.lww.com/AJN/A213

Note: Family caregivers can access these videos, as well as additional information and resources, on AARP's Home Alone Alliance web page: www.aarp.org/nolongeralone.

medication safety for older adults, reducing adverse drug events and associated costs due to fewer hospitalizations.[29] Nurses can support older adults and family caregivers by partnering with them during the deprescribing process. The older adult and family caregiver may have concerns that they are no longer receiving the care they deserve. Discussing the rationale for reducing PIMs and emphasizing that this may improve overall quality of life and reduce the risk of medication-related harm is one strategy to put them at ease.[16, 30]

The role of older adults and caregivers in safe medication use and deprescribing is noted in Scott and colleagues' deprescribing framework.[28] Clear deprescribing options for the older adult, such as complete discontinuation; dose reduction; or avoiding specific withdrawal symptoms, rebound symptoms, or disease worsening, should be defined and set before discontinuing medications, and caregivers must be educated on what to expect and monitor for.[28] Nurses can ensure that caregivers are empowered to take an active role in medication use and decision-making.

Managing complex medication regimens can be overwhelming for caregivers.[31] When preparing for the transition to home, one beneficial strategy is for the nurse to sit down with the caregiver and help to develop a medication schedule that aligns with the older adult's daily routine, using mealtimes and bedtimes as cues. This strategy is twofold: it ensures that the caregiver has a schedule for home that is workable and a schedule the caregiver understands how to execute, both of which can improve medication adherence.

Clinicians are responsible for supporting older adults and their caregivers with medication education and access, monitoring, and deprescribing throughout the continuum of care. Hospitalization and discharge planning are key times to ensure optimal medication use.

RESOURCES FOR CLINICIANS AND CAREGIVERS

Table 2 lists clinician tools for assessing and acting on medications. For a general overview of the 4Ms framework, see *Try This: Age-Friendly Health Systems: The 4Ms*.[32]

The AGS Health in Aging Foundation offers numerous resources and educational materials on medication management for family caregivers.[33] The Food and Drug Administration and the Family Caregiver Alliance also offer comprehensive guidance.[34, 35] Additionally, nurses can refer caregivers to the tear sheet, *Information for Family Caregivers*,

Table 2. Health Care Professional Tools for Assessing and Acting on Medication

Resources	Link
Try This: Age-Friendly Health Systems: The 4Ms	https://hign.org/sites/default/files/2020-06/Try_This_General_Assessment_35.pdf
Deprescribing.org: Resources for Patients and Health Care Providers	https://deprescribing.org/resources
US Deprescribing Research Network: Resources for Clinicians	https://deprescribingresearch.org/resources-2/resources-for-clinicians
2019 Updated AGS Beers Criteria for Potentially Inappropriate Medication Use in Older Adults	https://pubmed.ncbi.nlm.nih.gov/30693946
Choosing Wisely: Clinician Lists	www.choosingwisely.org/clinician-lists/#keyword=geriatric
STOPP/START Toolkit Supporting Medication Review	www.valeofyorkccg.nhs.uk/seecmsfile/?id=3035&inline=1
MedStopper	https://medstopper.com
Medication Management Instrument for Deficiencies in the Elderly	www.pharmacy.umaryland.edu/centers/lamy/clinical-initiatives/medmanagement/assisted_living/Tools-to-Assess-Self-Administration-of-Medication

AGS = American Geriatrics Society; START = Screening Tool to Alert to Right Treatment; STOPP = Screening Tool of Older People's Prescriptions.

which offers tips for medication safety and management after hospitalization. ▼

Mary C. Zonsius is an associate professor in the College of Nursing at Rush University Medical Center in Chicago, where Klodiana Myftari is a clinical pharmacy specialist in the Department of Ambulatory Care Management, Michelle Newman is a program manager in the Department of Social Work and Community Health, and Erin E. Emery-Tiburcio is an associate professor in the Department of Psychiatry and Behavioral Sciences. Myftari is also an assistant professor of pharmacy practice at Midwestern University College of Pharmacy in Downers Grove, IL. Contact author: Mary C. Zonsius, mary_c_zonsius@rush.edu. *The authors have disclosed no potential conflicts of interest, financial or otherwise.*

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