Medication Management:
A Study in Error Reduction and Cost Savings

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Mrs. Johnson is a 79-year-old woman who lives in a high-rise assisted living facility in a large city. She has private insurance, and her wealthy family pays out-of-pocket for any uncovered costs. She insists on self-medicating, but she is forgetful and disorganized. She often skips doses; and last year she was hospitalized because of an adverse drug event. She returned to the facility with a pressure ulcer that took several weeks to resolve.

Mr. Henderson is an 82-year-old man who resides in a small assisted living facility in a rural area. He receives Medicare, and he has prescription drug coverage through a retirement plan. Mr. Henderson takes seven different prescription medications. He receives medication assistance from facility staff, which eliminates the possibility for self-administration errors. However, the aide recently mixed up the medications in Mr. Henderson's pill pack. Fortunately, the elderly man's daughter—who is a nurse—noticed the error and corrected it before administration. The daughter and her family already were upset with the facility because of an incidence four months ago in which they were charged for extra pills when the original ones fell on the floor and had to be replaced. In fact, they are talking about moving him to a CCRC closer to their home in another state.

These kinds of situations are not uncommon in assisted living facilities. Such problems put residents at risk for drug-related problems (DRPs). They contribute to increased falls and fall-related injuries, hospitalizations, and even death. When DRPs cause harm to residents, they can negatively affect independence, functional level, and ability to perform activities of daily living (ADLs). The result can be the need for

nursing facility care. As the ability to age in place is a key attraction of ALFs for many residents, it behooves facilities to keep DRPs from adversely affecting their seniors.

Preventing DRPs is a particular challenge in ALFs, as residents tend to live more independently than their nursing facility counterparts and are more likely to self-administer medications. Even when they receive assistance, this help comes from medication aides who have little or no formal training.

In recent years, facilities and practitioners increasingly have looked to medication management systems that rely on technology and automation to help reduce errors. Dawn Strickland, President of Georgia-based Healthlynx Management Resources, Inc., is one such person. She has spent time researching medication management issues and implemented a system that helped significantly reduce DRPs and the associated hospitalizations and costs for seniors—many of them Medicare patients—in a variety of settings.

Step One:

Talking, Listening, Studying

In talking with assisted living facility and other senior living directors of nursing, case managers, admissions directors, and others, Strickland discovered that caregivers, family members, and patients alike make packaging errors such as misplacing pills or capsules in the bubble pack or strip. She also heard that in senior settings where there is less supervision over medication management and where individuals have the opportunity to self-medicate, there are more errors such as patients taking expired or discontinued medications, taking medications from different prescribers that cause drug-drug interactions, taking over-the-counter drugs that interact with their prescriptions, or missing dosages.

Of course, determining the right medication management system to use with any group of patients requires some study of these individuals themselves and their needs, habits, and personal situations. For instance, Strickland interviewed her patients about their medication regimens and medication-taking habits. She submitted the drug regimen she got from each patient to his or her physician to confirm that it was current and correct. "You would be surprised what you discover when you do this," said Strickland. "Patients were taking meds that had been discontinued, and they were taking incorrect dosages. With many low income patients, they just won't get a prescription filled if Medicaid doesn't pay for the drug. This last practice is likely to continue under Part D. If seniors can't afford an uncovered drug, they won't take it."

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Another problem Strickland uncovered in her study was that seniors sometimes were confused between brand and generic drug names. As a result, some were taking both a brand name drug and the generic version—prescribed by two different physicians—simultaneously. "This is one reason it is important for patients to get all of their medications from one pharmacy," she suggested.

Step Two:

Choosing a System

Strickland emphasized that it is essential to clean up these kinds of medication issues and problems before implementing any medication management system. "The best system in the world won't work if the drug regimen isn't accurate and patients are taking the wrong meds to begin with," she offered. "Once I knew what we were dealing with, I was confident that this system would help resolve the difficulties these patients and their caregivers were having."

The medication management system that Strickland chose to implement with her study patients and facilities is a personal prescription system designed to simplify self-medicating for patients who take multiple medications. The system enables a pharmacist to custom sort, package, and label a patient's multiple medications into a series of personalized dosage cups. Time-specific dosage cups are organized in a color-coded calendar card and hermetically sealed. Each tamper-evident cup is labeled with the patient's name, the contents, and the precise time to take the medications.

The benefits of the medication management system Strickland chose are numerous and include:

- Reduces the number of people and hands involved in preparing, packaging, and administering medications, thereby reducing the opportunities for errors
- Computerized record keeping that prints off physician order sheets with medication details that can be sent to physicians for sign-off before the medications are filled and administered
- Medications can be taken accurately and safely even if patients are illiterate or visually impaired.

Step Three:

Introducing the System

Strickland introduced the system in a way that was designed to increase patient buy-in, understanding, and

adherence. "I showed them the med packs, and I explained how the system works and what it will do for them. Generally, I had a family member or caregiver with me when I had this conversation," she said. The presence of these other individuals is important, she emphasized, partly "because I was going to train them to use it." She stressed that it is "a simple system;" nonetheless, a little training is useful, and it helps to increase buy-in and use over time.

The conversations and training helped ensure the patients would use the system, Strickland stated. "For the most part, they understood that what they were doing before was not working. They realized that they needed something different," she said, adding, "Overall, people understand that if their health is dependent on them changing something, they will make that change."

However, Strickland cautioned that there will always be some resistance to change. "We probably had about six patients out of 50 who resisted using the system. They were accustomed to what they were doing and didn't want to change," she offered.

Overcoming such resistance can be challenging. It is important to help patients understand the benefits of effective medication management—as well as the dangers and risks of poor adherence—and to do everything possible to get them to do what is best. However, when it affects adherence and results in DRPs, it will be important for the patient's physician and family members to support participation in a plan whereby medications are administered by facility staff.

What is the Cost?

How much the medication management system will cost is a big concern for many patients. Strickland admitted that good systems are not necessarily inexpensive. In fact, sometimes they can be fairly costly to implement and utilize. She noted that approximately 75% of pharmacies currently charge an average of $15 to $20 per patient for packaging this type of system. She suggested that facilities work with pharmacy providers to get them to support or share the system's cost in return for increased business or status as a facility's or health system's preferred provider.

Of course, one option is to pass the extra expense to residents. Strickland suggested that those who can afford it are not likely to balk, particularly when they understand the many benefits. Another possibility is to offer "gift certificates" for the service that family members and friends can purchase for residents.

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Currently, neither Medicare nor Medicaid pays for medication management systems. Nor will they be covered under the new Medicare prescription drug benefit. However, the details of the medication therapy management services (MTMS) component of the benefit have yet to be worked out; and there is a possibility that such systems could be covered for high-risk patients taking large numbers of prescriptions.

Nonetheless, Strickland insisted that—even if the facility has to foot the bill itself—a good medication management system pays for itself in short order. In her study, adherence increased and DRPs and medication-related hospitalizations decreased significantly.

ALF administrator Joanne King added that this type of medication management system saves time, which translates into cost savings as well. "I had to set up medicines in weekly packs. I had 60 residents, and I had to set up packs for 54. This took 3-4 hours every day. And if I dropped a pack, we couldn't use the medication. The whole process was unproductive and expensive," she said. In fact, she noted, the new system has cut the medication preparation and administration time in half. As residents receive individual med packs when they go off-site, the system also increases the likelihood of adherence when these individuals can't be monitored.

King explained that her facility has had no errors since they implemented the system. She is so adamant about its value that her facility won't admit residents who don't agree to use it. "We have yet to have anyone refuse," she stated.

The money these systems save in terms of reduced errors and preparation/administration time is only part of the equation, Strickland suggested. Additionally, fewer medication errors generally mean that seniors remain functional longer and have a better quality of life. And that, she stressed, is an important goal in any aspect of senior care. ALC

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