Report from an Expert Symposium on Medication Management in Assisted Living*

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Assisted living (AL) has traditionally been viewed as a "social" model of care (compared to the "medical" model of a skilled nursing facility [SNF]), but medication management is one area in which AL is clearly crossing over to a medical model—one that includes management of residents' medication needs. Individual providers and the industry as a whole have been discussing the challenges of medication management in AL for many years.

The Center for Excellence in Assisted Living (CEAL) and *Assisted Living Consult* convened the Expert Symposium on Medication Management in Assisted Living on January 31, 2008, to discuss challenges in medication management in AL and promote discussion among experts from numerous perspectives. In 2001, the Assisted Living Workgroup (ALW) was convened at the request of the US Senate Special Committee on Aging to develop consensus recommendations to ensure quality care in AL. The Workgroup was a national initiative of nearly 50 organizations representing providers, consumers, long-term care (LTC) and healthcare professionals, regulators, and others. ALW presented 110 recommendations, 20 specific to medication management, in its final report to and testimony before the US Senate Special Committee on Aging in April 2003.

To continue the discussion of medication management in the AL setting, CEAL and *Assisted Living Consult* invited members of the National Center for Assisted Living (NCAL), Assisted Living Federation of America (ALFA), and American Assisted Living Nurses Association (AALNA) to participate in a January 2008 online survey of medication management and pharmacy practices and challenges. The findings of the survey and the work of the ALW inspired CEAL to gather a wide and distinguished group of experts representing diverse perspectives to discuss issues and develop actionable next steps to improve the quality of medication management services in AL.

Background

The benefits of modern medications are impressive, but with the benefits come potential hazards. Toxicity, adverse drug reactions (ADRs), adverse drug events (ADEs), drug interactions, and other negative outcomes pose a constant threat to anyone taking medications, particularly older adults who often take multiple prescription and over-the-counter (OTC) drugs.

Terminology used to describe medication-related hazards can be confusing. Table 1 provides definitions of essential medication-related terms, used by the Food and Drug Administration (FDA) and the World Health Organization (WHO), that will aid the discussion of medication management in this report.

Table 1.
Definitions of Terms Related to Medication Errors and Adverse Events

Adverse event: Harm to a patient administered a drug but not necessarily caused by the drug.[1]

Adverse drug reaction (ADR): Harm directly caused by a drug at normal doses.[1]

Adverse drug event (ADE): Harm caused by the use of a drug; includes harm from overdoses and underdoses; usually related to medication errors.[1]

Side effect: A usually predictable or dose-dependent effect of a drug that is not the principal effect for which the drug was prescribed; the side effect may be desirable, undesirable, or inconsequential. Because the term *side effect* can refer to a range of effects and is therefore nonspecific, its use should be avoided.[1]

Drug interactions (drug-drug, drug-food, drug-herb): An effect that occurs when a substance affects the activity of a drug (the drug's activity is increased or decreased, or the combination of substances produces a new effect that neither agent produces on its own).[1]

Medication error: Any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the healthcare professional, patient, or consumer. Such events may be related to professional practice, healthcare products, procedures, and systems, including prescribing; order communication; product labeling, packaging, and nomenclature; compounding; dispensing; distribution; administration; education; monitoring; or use.[2]

Medication Use by Seniors

On average, older adults use 5 prescription medications, and those with 3 or more chronic conditions use 6 to 7 prescription medications per month.[3] A 2001 study of medication usage patterns in AL reported the number of medications used by AL residents to be 6.2 (+/-3.4).[4] AL residents are more likely than residents of skilled nursing facilities (SNFs) to be treated by several different specialists for concurrent medical conditions, yet AL residents receive less oversight of their medication regimens compared with SNF residents. The high number of medications that AL residents take can increase the potential for drug interactions and other negative outcomes.[5]

An estimated 106,000 fatal ADEs occur annually in the US.[6] One-third of emergency department (ED) visits by older adults presenting with ADEs are caused by 3 drugs—warfarin, insulin, and digoxin.[7] Monitoring for ADEs is an important consideration for medication management in AL settings, especially since approximately 85% of AL

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residents require assistance with medication management.[8]

Medication Management by State

A state-by-state analysis of 2007 regulations related to medication management in AL provides the following statistics, compiled by CEAL (original research):

- Fourteen states require nurse administration of medications in AL.
- Thirty-two states allow unlicensed assistive personnel (UAPs) to administer medications to AL residents.
- Four states have special conditions: Kentucky and New York require AL residents to self-administer their medications, and Louisiana and Minnesota require AL residents to contract with an outside source for medication administration if they cannot self-administer.

Results of the CEAL/*ALC* survey from 547 individuals (53%, AL administrators or executive directors; 28%, AL nurses; 13%, AL owners; 5%, AL regional corporation directors) indicated issues of concern to AL staff. (Table 2 indicates states with the highest numbers of survey respondents.)

The most likely types of medication errors include:

- Medication out of stock or not delivered to AL [Dispensing error]
- Medication given at the wrong time [Administering error]
- Medication given at the wrong dose [Administering error]
- Wrong medication sent by the pharmacy [Dispensing error]

The most pressing medication-related challenges (in order) are:

- Difficulty reaching a physician or nurse practitioner to obtain or verify a prescription [Prescribing]
- Timely delivery of medications by the pharmacy [Dispensing]
- Appropriately trained staff [Administering]
- Adequate staffing [Administering]

Other challenges to effective medication management in the AL setting (Table 3) were discussed by Symposium participants and have been identified in the findings of a joint study by the Oregon Health & Science Institute, Rutgers University Center for State Health Policy, the University of Washington, and Northern Illinois University.[9]

Symposium Planning

Based on the findings of the national online survey, CEAL chose to focus the Symposium discussions on the following 3 areas of medication management:

- Prescribing medications (Healthcare provider level)
- Dispensing medications (Pharmacy level)
- Administering and documenting medications (Facility level)

The goals of the Symposium were to:

- Identify practices, processes, and policies that are effective.
- Identify practices, processes, and policies that create challenges.
- Determine and prioritize constructive solutions (based on evidence, if possible).
- Identify top priorities and develop a list of actionable next steps for each priority.

Table 2.
States with Highest Response to CEAL/*ALC* Survey

Minnesota, 61	Florida, 28	Massachusetts, 23
New Jersey, 44	Iowa, 25	California, 21

Table 3.
Challenges to Effective Medication Management in AL

- Balancing consumer safety and autonomy with self-administration of medications: In response to increased consumer demand, many AL facilities desire to maintain higher-acuity residents, yet may lack the systems to manage their healthcare needs. Residents at particular risk include those who:
  - o Lack coordination of care among multiple prescribers and healthcare providers
  - o Were recently discharged from a hospital
  - o Have impaired cognitive status
  - o Are on complicated medication regimens
- Healthcare providers who do not specialize in geriatrics: Because nongeriatricians have not received specialized training in health characteristics of older adults,[10,11] they may not provide the best care possible for seniors with chronic illness and complex medication needs. Nonspecialists may not be familiar with the Beers Criteria[12] of medications and may inappropriately prescribe medications for these seniors. In addition, nongeriatricians may mistake medication adverse effects for the onset of new illnesses or aging and prescribe additional medications for the perceived new conditions.
- Lack of uniformity among states regarding medication management: The definition of "medication assistance" varies among states. Regulations and statutes guiding nurse delegation vary among states and can be confusing even within one state.[9]
- States struggling to find the best way to balance consumers' desire for a more homelike "social" model of care with the reality that many people who want this option also need help with "medical" or nursing needs, such as medication administration[12]: Problems that occur include[9]:
  - o "Assistance with self-administration" often becomes "medication administration."
  - o Medication administration is often provided by UAPs who operate outside of a nurse-delegation model.
  - o Nurses may be involved in supervising UAPs rather than delegating to them because nurse delegation in AL is not authorized by all states. (Delegation is the transfer of authority from a licensed nurse to a competent individual for completing selected nursing tasks, activities, and functions. It requires assessment of the client, the staff and the context of the situation; communication to provide direction and opportunity for interaction during the completion of the delegated task; surveillance and monitoring to ensure compliance with standards of practice, policies, and procedures; and evaluation to consider the effectiveness of the delegation and whether the desired client outcome was attained.[13])

The CEAL Symposium planning committee developed the curriculum and agenda, under the leadership of Sandi Flores, RN, director of clinical services, Community Education, LLC. The American Institute of Architects provided the venue for the Symposium. Healthcom Media and CEAL were responsible for logistics and HealthCom Media for sponsorships.

The following are highlights of the Symposium presentations and breakout discussions.

Symposium Highlights

CEAL Board Chairman and Executive Director of NCAL Dave Kyllo welcomed the attendees, explained the rationale for the Symposium, described the planning committee, and thanked sponsors and partners.

He defined 2 terms that would be used during the Symposium:

Polymedicine: Multiple medications prescribed appropriately for older adults to treat comorbid conditions

Polypharmacy: The undesirable state caused by use of duplicative medications, drug interactions, and disregard for principles of pharmacokinetics (bodily absorption, distribution, metabolism, and excretion of drugs) and pharmacodynamics (reactions between drugs and living systems)

The goal of medication management in AL residents is polymedicine. The Symposium goal, explained Mr. Kyllo, was to develop some actionable steps for CEAL to help promote polymedicine in the AL setting.

Overview of Medication Management in Assisted Living

Susan Reinhard, RN, PhD, senior vice president, AARP Public Policy Institute, presented findings of the joint study by the Oregon Health & Science Institute, Rutgers University Center for State Health Policy, the University of Washington, and Northern Illinois University, published in the *Journal of the American Geriatrics Society (JAGS)*.[14] Dr. Reinhard opened her presentation by stating that providing assistance with "SELF administration" of medication in AL is just a game of words. Many states, however, do not want to delve into the problem of medication administration in a "home-like" setting. Person-centered (resident-centered) care is the goal, but we are not achieving it in the AL setting, stated Dr. Reinhard, because we are challenged by the need to have processes, regulations, and policies.

The medication administration observational study of 15 rural and urban AL settings in 4 states included direct observation of medication passes and focused interviews with registered nurses (RNs), licensed practical nurses (LPNs), medication aides, administrators, physicians, nurse practitioners, and pharmacists (n=510). Reviews of resident records (n=187) were also included. The following information is taken from the observational study.[14]

AL settings in the 4 study states differed significantly (Table 4).[14] Dr. Reinhard also reported that delegation varied widely, with Oregon having one of the broadest delegation frameworks. The only delegation required in Oregon is one-on-one delegation for injections and fingersticks. Medication aides are not certified. Washington requires certification for nurses' aides and delegation training. New Jersey has very specific delegation. Aides take a course, and delegation training is done by the nurse at the facility. Illinois has no medication aides; nurses administer medications.[14]

Staff turnover at the 15 facilities was nearly 50% (all staff). Resident turnover averaged 30%. Eighty percent of residents were female, and the average age was 81.8 years. About 60% were alert and oriented, and 77.5% needed assistance with medication administration. Residents were taking an average of 10 prescribed and 3 as-needed (PRN) medications.[14]

Delivery systems also varied. Corporate facilities used corporate pharmacies with local pharmacies as backup. Standalone facilities used local pharmacies. Facilities in Oregon used medication trays, Washington and New Jersey used medication carts, and Illinois stored medications in each resident's room. Methods for identifying residents varied from marking medication cups with room numbers or resident names to simply stating the resident's name verbally. Timing of documentation varied, and privacy was an issue in 11 of the facilities.[14]

Table 4.
Differences Among AL Settings in Four States[14]

Illinois	• Chain and standalone • Two types of pay: o AL: private pay, lighter level of care o Supportive living: Medicaid waiver, nursing home alternative
New Jersey	• Chain and standalone • Private pay, favored some Medicaid • Mostly frail older adults
Oregon	• Mostly for-profit • Part of 1 chain • Mostly frail older adults needing high levels of care • Mostly Medicaid, some private pay
Washington	• For-profit and nonprofit • Standalone and chain • Private pay favored, some Medicaid • Lighter level of care required

The role of UAPs included numerous time-constrained tasks[14]:

- Medication stocking and delivery
- Communicating and problem solving (about why medications were not delivered)
- Quality monitoring
- Team participation and leadership
- Multitasking in a chaotic environment

Although there was general satisfaction with their role among the UAPs themselves and other members of the healthcare team in the study population, UAPs requested more training in medication administration.[14]

Nurses viewed their role as clinical oversight of all residents, including admission and discharge; coordination with physicians and nurse practitioners; training, delegation, and supervision of UAPs; error management; quality monitoring; and record keeping. Role priorities for nurses are heavily influenced by state regulations. The emphasis is predominantly on task-oriented or reactive situations rather than on proactive monitoring and promoting of community health. Across the 4 states, the role of nurses in medication management was consistent. However, comprehensive review of total resident medication regimens with attention to medication reduction by facility nurses, physicians, and pharmacists was inconsistent. Under New Jersey regulations, the RN role is the most consistently defined. Staffing requirements are higher, and nurses are expected to monitor high-risk residents and focus on medication reduction.[14]

Across the 4 states, the total medication error rate was 28.2%. If time (errors related to timing of a dose) is removed as a factor in errors, the rate dropped to 8.2%. In fact, errors in dose timing accounted for 70.8% of errors; wrong dose, 12.9%; omitted dose, 11.1; extra dose, 3.5%; unauthorized drug, 1.5%; and wrong drug, 0.2%.[14]

Facilities are responsible for setting the timing of doses according to strict schedules. This leads to high stress levels and an approach that is not person centered. Physicians, nurse practitioners, and administrators need to work to find ways to allow nurses and medica-

tion aides to deliver medications individually and not according to a regimented schedule to lower the stress levels.[14]

In the study, no errors were judged to be highly likely to cause harm (out of 1373 errors). Four errors (2 wrong dose and 2 unauthorized drugs) were judged to possibly cause harm. The error rate was mostly with insulin.[14]

According to Dr. Reinhard, strategies to limit errors include increasing RN involvement, following the Five Rights of medication administration (Table 5), auditing medication administration records, observing policies and procedures, limiting distractions, supervising UAPs, and training UAPs. Another strategy is to increase flexibility in medication schedules to eliminate some of the stress medication aides feel. Physician and nurse practitioner involvement on-site makes a difference in the appropriateness of prescribed medications, resident assessment, problem solving, and overall health management of residents.

Implications of this study[14] to consider, stated Dr. Reinhard, include:

- The acuity of AL residents is increasing and so is the complexity of medication management.
- Medication management is both a person and a system issue.
- Timing is a major issue: What is the relevance of the 2-hour window* in medication administration?
- RNs play a vital role in resident assessment and training and supervision of medication aides. The potential for this resource is not fully realized.

*Many AL communities rely on regulations for long-term care (LTC) facilities provided by the Centers for Medicare & Medicaid Services (CMS) that state that medications must be administered 1 hour before or 1 hour after the prescribed administration time. (Centers for Medicare & Medicaid Services. *State Operations Manual*. Appendix PP: Guidance to Surveyors for Long Term Care Facilities. Rev. 26. CMS Web site. http://cms.hhs.gov/manuals/Downloads/som107ap_pp_guidelines_ltcf.pdf. August 17, 2007. Accessed July 10, 2008.)

Medication Management: Six Perspectives

Moderated by Josh Allen, RN, Community Education, LLC, panel members in this session included:

- Deb Choma, RN, nurse and administrator, Shard Villa, Salisbury, VT; member of NCAL Board
- Ethel Mitty, RN, EdD, researcher and academician, clinical professor of nursing, John A. Hartford Institute of Geriatric Nursing, New York University, New York, NY
- Jackie Pinkowitz, MEd, consumer advisor for QualityHealth.com, and Consumer Consortium on Assisted Living Advisory Board member, Colts Neck, NJ
- Brandy Toivonen, memory care coordinator and medication aide, Springridge Court, Wilsonville, OR
- Pat Giorgio, MA, president, Evergreen Estates, Cedar Rapids, IA
- Nancy Losben, RPh, CCP, FASCP, chief quality officer, Omnicare; board member, *Assisted Living Consult*

The following are the major points presented by the panel members of this session.

Table 5.
Five Rights of Medication Administration

- Right Resident
- Right Medication
- Right Route
- Right Time
- Right Dose

Jackie Pinkowitz, MEd (Family Member Perspective)

Ms. Pinkowitz began by stating that family members see medication management in an evolving way. "As our family members' condition changes, so too does our focus." She said most family concerns stem from 3 areas:

1. The current health condition of the resident when he or she moves into the AL community
2. The number of different physicians and specialists who are caring for the family member and who are individually prescribing medications
3. The absence of an electronic medical record system that would enable the multiple physicians and AL personnel, the appropriate personnel in the ED and hospital, and the appropriate family members to access and share health condition, medication, and lifestyle information

Most AL residents are in their 80s, noted Ms. Pinkowitz. Many are somewhat cognitively impaired. Family concerns start before the AL staff gets involved in medication management. If family members are not accompanying their relatives to their specialist or primary care office visits, those residents are self-reporting. They are self-reporting the medications, vitamins, and supplements they are currently taking; the actual doses; and how often they are taking them. Many of these residents self-report regardless of whether or not they have written their medications on a list. When they arrive at the AL community, they are self-storing and self-administering, and they are expected to be self-compliant with 9-plus daily medications.

When our loved ones enter AL facilities, said Ms. Pinkowitz, the extra expense is a burden.

"We want to be informed about care issues. We want the medication aides to be knowledgeable about medication administration and to understand the risks of not doing these tasks well."

Ms. Pinkowitz emphasized 4 elements of medication management that all healthcare providers should use:

- Anticipate
- Integrate
- Communicate
- Educate
  - before you Medicate.

Pat Giorgio, MA (Owner/Administrator Perspective)

Ms. Giorgio opened her presentation by noting the importance of attending to staff as well as residents. Although meeting the needs of residents is the purpose of providing care in an AL setting, it is also important that administrators attend to the needs of staff for more education and training and recognize their contributions to resident care. As much as we need good policies and procedures for medication administration, she said, the bottom line is to provide leadership of staff and recognize the importance of those who are providing care every day. The key to success is having the right people in the right job, asserted Ms. Giorgio. AL administrators need to be leaders and provide the resources that are necessary to help staff provide quality and excellence in care.

Brandy Toivonen (Medication Aide Perspective)

Responsibilities of medication aides include administering medications, transcribing physicians' orders, faxing orders to pharmacies, communicating with family and residents about their physicians' orders, communicating with physicians, and communicating with resi-

dents about their general well-being, stated Ms. Toivonen.

Medication aides may pass as many as 700 to 1000 medications and treatments per day, depending on the size of the community they service, Ms. Toivonen said. It becomes increasingly difficult to manage medications when there are multiple pharmacies and mail-order pharmacies involved. Breaks in communication between families and facilities occur, especially when families take a resident to a physician who prescribes new medications, Ms. Toivonen explained.

By law, medication aides need specific orders from physicians. For example, she said, a physician may write an order for 1 to 2 tablets every 4 to 6 hours. However, medication aides are not licensed to make a decision about whether to give 1 or 2 tablets and whether those tablets are given every 4, 5, or 6 hours. Similarly, medication aides are not licensed to give as-needed (PRN) medications, explained Ms. Toivonen. Medication aides must follow specific instructions and medication orders. Much of the medication aide's time and energy is spent contacting the prescribing physician for a new medication order. Other complications occur when residents are discharged from hospitals and arrive at a facility without specific discharge instructions.

Ethel Mitty, EdD, RN (LTC Researcher and Academician Perspective)
We must be concerned with the resident–environment fit, began Dr. Mitty. "We need to know if a medication will be a problem for a resident. What kind of noncompliance will we allow from our residents? And we shouldn't call it noncompliance, but rather quality of life." For example, when is it likely that a resident won't take a prescribed diuretic? Dr. Mitty asked. Perhaps when he or she is going to attend a social event. When is it likely that a resident will need extra insulin? Perhaps when he or she wants to partake of birthday cake at a party.

It is more than medication management that is a concern; the concern is a resident's quality of life, stated Dr. Mitty. We who work with AL residents must get to know the residents.

Given that the rate of medication errors is low in AL settings, we need to find a better way to administer PRN medications, such as pain medicine, without getting frantic, stated Dr. Mitty. PRN medications have been made a pariah. Residents cannot age in place if PRN medications are an administration problem, said Dr. Mitty, alluding to what Ms. Toivonen had just explained.

Another area of concern in AL is that many executive directors of AL facilities are former hotel services directors. What do we know about their values? asked Dr. Mitty. This is an ethical problem.

In educating UAPs, how much can we teach about the medications, doses, adverse reactions, and interactions? asked Dr. Mitty. Is it better to teach UAPs how to recognize what's normal about each resident, thereby also teaching them how to recognize what is abnormal?

Deb Choma, RN (AL Nurse and Nurse Administrator Perspective)
Education and communication are the keys to medication management in the AL setting (and elsewhere), said Ms. Choma. The big issues in AL involve coordinating multiple pharmacies, verifying physicians' orders, managing over-the-counter (OTC) vs prescribed medications vs supplements, coordinating hospice, and managing medications that require blood level testing. Medications that have guidelines (eg, insulin) are difficult to manage, Ms. Choma explained.

Nancy Losben, RPh, CCP, FASCP (Pharmacy Perspective)
AL facility communication with the provider pharmacy is important, said Ms. Losben in her opening statement. Creating contractual agreements allows AL facilities to communicate their needs and expectations to a potential partner pharmacy. The sense of urgency to dispense and deliver immediately to an AL setting (like what would be felt if dispensing to a hospital) is complicated by the setting's social model and residents' freedom of choice in selecting their own pharmacies. It is helpful to pharmacies who wish to enter a relationship with an AL facility if contracts specify the delivery needs of that facility, explained Ms. Losben.

Karen Love, managing director of the Center for Excellence in Assisted Living (CEAL), and Dave Kyllo, executive director, National Center for Assisted Living (NCAL), and chair, CEAL board of directors, at the Symposium on Medication Management in Assisted Living in Washington, DC, January 31, 2008.

An often overlooked resource for AL communities is a consultant pharmacist who can provide expertise in reviewing medications and supplements. The costs of these services can be viewed as too high by some AL facilities. But consultant pharmacists can devise individualized plans for facilities. For instance, they can review remotely. They can review one-third of the resident charts each month rather than all of them every 3 months. By working with consultant pharmacists, AL facilities can find an arrangement that meets their needs. Ms. Losben warned that if a patient with diabetes wishes to age in place, the medication regimen will grow more and more complex. It is consultant pharmacists who can help the facility manage that resident's medications.

Who detects medication errors and how? asked Ms. Losben. Education of medication aides and staff has to include how to recognize and report medication errors, how to prevent the next big event—eg, stroke, myocardial infarction (MI), and other problems.

During a question-and-answer period that followed the presentations, participants outlined the top areas in which medication aides need additional training:

- Administering medications that have parameters (For example, residents receiving insulin and warfarin must have their blood levels of the drugs monitored to determine correct dosage.)
- Administering narcotics (especially in hospice)
- Medication error protocols and follow-up
- Objective charting and documentation
- Medical terminology and abbreviations and some pharmacology
- Administration techniques (using practical stories to teach concepts)
- Focusing on high-risk medications
- Determining root causes of medication errors

- Reporting near-misses
- Identifying signs and symptoms of common problem such as hyperglycemia, hypoglycemia, MI, and others
- Stratifying patients into different levels of care based on high-risk medications and other parameters

The panelists and audience members also expressed concern that the AL industry harbors fears of being too regulated. As a result of that fear, some facilities may avoid handling the medication management needs of residents as part of their services. Many medication errors occur during transitions of care. Primary care physicians should be managing (overseeing) AL residents' care and not allowing their care to be fragmented among numerous specialists, pharmacies, and hospitals. An emphasis is needed on developing better communication tools among caregivers. An area of particular need is family communication and education about dementia and medications. And finally, although this Symposium is addressing the current state of medication management, who will address the future needs of AL residents—those that will arise 5, 10, or 15 years from now?

Point-Counterpoint

Howard Groff, NCAL chair and president, Tealwood Care Centers Inc., moderated a point-counterpoint discussion by pairs of symposium participants.

Prescribing

Dan Haimowitz, MD, FACP, CMD, private practice
Josh Allen, RN, Consumer Education, LLC

Dr. Haimowitz stated that medical directors are underutilized in AL facilities but can be vital in coordinating care among many specialist physicians and in overseeing a resident's medications. An actively involved family is beneficial, yet because they assume responsibility for taking the resident to his or her physician, there is a possibility that they will return to the facility with unclear orders from the physician. Medical directors are often overly reliant on families to be the go-betweens, which can introduce problems and errors in medication administration.

Physicians have difficulty communicating with facilities, stated Dr. Haimowitz. It is often unclear which nurse the physician should communicate with, or at times, the appropriate nurse is not on duty when the physician calls. There are language barriers with the staff. The physician cannot give verbal orders in some facilities. Transitions of care are a major problem as is medication reconciliation. A prescriber may not know that a medication aide is strictly following dosing instructions by waking a resident in the middle of the night to give a medication and therefore cannot change the order to allow more flexible administration.

Mr. Allen countered by stating that on the other hand, nurses feel they are calling physician offices all day long. Facilities often lack the technology needed for electronic prescribing, and the cost is prohibitive for many sites. Additionally, AL staff may not be technically savvy.

Dr. Haimowitz warned that staff also need basic training in geriatrics. They need to know that any medication can have any side effect. Staff need to be taught to report any sign or symptom that is different.

Both presenters attested that, unfortunately, a level of animosity may develop between healthcare staff and physicians because of required documentation, forms, and varying state regulations. The presenters also agreed that clinical pathway guidelines of SNFs can translate to the AL setting—but only if the AL industry accepts these guidelines without prejudice.

Dispensing

Alexander Pytlarz, PharmD, director of pharmacy, Vanguard Advanced Pharmacy Systems
Sharon Roth Maguire, MS, APRN-BC, GNP, APNP, vice president, clinical services, Brookdale Senior Living

Skilled nursing care uses an institutional pharmacy model, noted Dr. Pytlarz. On the other hand, AL follows a retail pharmacy model. There are fundamental differences in the 2 systems that are relevant to the challenges of medication management.

Ms. Maguire stated that packaging and delivery are significant problems in the AL setting. Most retail pharmacies deliver once a day. Therefore, "stat" medications (medications that should be administered immediately) are problematic.

Dr. Pytlarz acknowledged the difficulties and said that AL facilities need to develop contracts with preferred pharmacies to meet their needs—contracts that specify delivery and packaging, including unit-of-use packaging, especially for controlled substances (due to diversion issues). Facilities can then communicate to families and residents the reasons why a pharmacy was chosen and encourage that pharmacy's use by all residents. Facilities can also mandate a preferred pharmacy as the backup for those residents who want to do business with their own pharmacies. Alternatively, facilities can charge extra fees to deter residents from using pharmacies other than the facility's preferred vendor. Using multiple pharmacy providers creates medication administration record (MAR) errors and packaging problems.

From the pharmacy standpoint, said Dr. Pytlarz, it is challenging to serve "half" the facility. There is a multitude of packages, and MARs are incorrect because they only cover half the residents. Utilizing a provider pharmacy that focuses on AL allows communication between pharmacist and physician to clarify problems and questions, such as PRN prescriptions, continued Dr. Pytlarz. Establishment of 1 or 2 key pharmacy contacts in each AL facility may facilitate continuity in communication.

Administering

Richard Stefanacci, DO, MGH, MBA, AGSF, CMD, editor-in-chief, *Assisted Living Consult*
Kathleen McDermott, RN, BSN, area director of resident care, Sunrise Senior Living

Dr. Stefanacci presented 3 specific points from the physician perspective regarding administration:

1. Give medication appropriately, so that the timing is correct—evening or morning.
2. If there is a clinical issue, the medication aide should call the physician. Aides must understand the implication of giving or not giving a medication.
3. If a resident refuses a medication, the aide should call the physician.

Dr. Stefanacci also noted that it is useful to require physicians to perform medication passes once a year so they see how the passes work. This exercise allows physicians and medication aides to view "the other side" and ask the practical questions that can facilitate needed changes. Placing an outpatient geriatric physician/nurse practitioner office in a facility can improve communication tremendously and bring potential residents into the facility early. Furthermore, restricting the physician network decreases the number of physicians accessing residents and helps increase familiarity with individual residents.

From the administrator perspective, stated Ms. McDermott, it is important to motivate front-line staff. They are the most important people delivering medications. A medication course is effective, especially if peppered with "horror stories" about medication errors. However, the punitive element of medication errors must be removed. It's vital to establish a trusting relationship between nurses and medication aides to promote reporting of medication errors or near-misses so that preventive processes can be developed, said Ms. McDermott. An important point to remember is that the front-line staff often knows better than anyone (sometimes even family) that something is not right with a resident. Listening to the staff and validating their reports is extremely important to ensuring resident safety.

Breakout Groups

Prescribing

Facilitated by Richard Stefanacci, DO, MGH, MBA, AGSF, CMD; and Susan Gilster, PhD, executive director, The Alois Alzheimer Center; the breakout group on prescribing identified the following questions, issues, and possible solutions:

- Prescribing problems are *system* problems. The right hand does not know what the left is doing.
  - Potential solution: Develop best practice recommendations for AL medication management that target organizational systems.
- When a resident visits a physician's office alone or with a family member, the AL facility may not know. The facility doesn't always know all of the medications a resident is taking.
  - Potential solution: Use standardized electronic information—electronic medication record (e-MAR) model?—or send a copy of the MAR to the facility.
  - Potential solution: CEAL develops a white paper to provide residents information about medication management when they move in, including sheets for the facility to guide them and families.
  - Have all facility staff report resident medications, including over-the-counter (OTC) medications.
  - Use consultant pharmacists.
  - Is there an opportunity under Medicare Part D for plans to offer medication therapy management services?
- HIPAA issues are complicated when residents have dementia.
  - Potential solution: Assess the need for legal representation for all residents entering AL facilities.
- Physician involvement in AL facilities is low.
  - Potential solution: Recommend networks of preferred physicians and increase reimbursement to encourage physician involvement in AL..
- Spearheaded through statewide Quality Improvement Organizations (QIOs), CEAL could develop and post online educational material facilities can use, including:
  - Information on proxy decision makers (dementia)
  - Education about how to take medications
  - Information on high-risk medications including OTC
  - Preventive medicine including benefits and costs
  - Information on end-of-life care
- Other CEAL initiatives may focus on:
  - Improving transitions in care
  - Encouraging AL facilities to adopt health information technology (HIT)
  - Exploring variations in AL facilities across states to determine best practices
  - Reducing unnecessary polypharmacy

Dispensing

Facilitated by Nicole Brandt, PharmD, CGP, BCPP, associate professor, geriatric pharmacotherapy, University of Maryland School of Pharma-

Richard Stefanacci, DO, MGH, MBA, AGSF, CME, editor-in-chief of *Assisted Living Consult*, leads the breakout session on administration during the Symposium on Medication Management in Assisted Living, January 31, 2008, in Washington, DC.

cy; and Kathy Cameron, RPh, MPH, chair, Consumer Consortium on Assisted Living; this breakout group identified the following as the primary problems related to medication dispensing and delivery:

- On-time delivery and access to medications by AL settings
- Packaging systems
- Poorly defined and infrequently used role of consultant pharmacist
- Multiple pharmacy use
  - o Mail order pharmacies that cannot provide timely prescription dispensing
  - o Preferred (institutional) vs retail pharmacies
- Pharmacy errors in filling prescriptions
- Tracking difficulties

The group developed a list of priorities for improving medication dispensing to AL communities:

- Use consultant pharmacists for at least bi-annual reviews of resident medications, and provide education to residents, families, and staff to work cooperatively to reduce medication errors.
- Clearly disclose information about pharmacy services, fees, and expectations of residents and families (eg, explain the importance of providing a list of medications and notifying staff of medication changes).
- Identify a preferred pharmacy provider, create contracts, and prenegotiate delivery availability and packaging.
- Develop clear communication processes between pharmacies and AL settings.
- Address the gap in research (ie, pharmacy errors in filling prescriptions and solutions).
- Increase the use of technology such as e-MARs and e-prescribing to decrease medication errors and improve workflow.

Administering

Facilitated by Kathy Fiery, MS, LNHA, CALA, CSW, director, Assisted Living Health Care Association of NJ; and Josh Allen, RN, Community Education, LLC; this group identified the top concerns as the need for:

- Individualized medication management
- Assessment of residents' mental capacities
- Safe and efficient AL staffing

The group's recommendations included:

- Develop individualized medication management plans that tailor medication administration times and appropriate as-needed (PRN) medications to the needs of residents. The plans are based on decision-making capacity, competency, medical needs, and lifestyle choices. The individualized plans are successfully communicated to all stakeholders in the care setting.

The general discussion included the following points:

- Some facilities do not use medication aides. There is concern about the role of the medication aide because medication management is more than just giving pills. The medication aide is a natural fit in a social model of AL. But in a medical model (which may be needed in AL), the medication aide's role should be clearly defined.
- There is confusion about the role of the medication aide and what is meant by medication administration and self-administration. What research needs to be conducted in this area?
- The role of medication aides has become specialized—this is a career ladder for many healthcare staff. And many of these aides are responsible for medication administration to 60-plus residents.
- An ethical issue involves administration of medicines to residents with dementia. Is "hiding the pill in the pudding" overstepping a resident's rights or using sound judgment based on the need to administer the medicine?
- What are the ethics of legal incompetence vs resident capacity? Judges decide incompetence, but doctors decide capacity. Autonomy versus safety; ethics versus clinical needs.
- Do all medications fit the 2-hour administration window? Is consistency more valuable than person-centered care? Time limits are often self-inflicted by the clinical staff.
- How can we provide a more holistic perspective to medication

Table 6.
CEAL Strategies for 2008 and Beyond

CEAL Initiatives for 2008

CEAL will serve as a national champion to help increase awareness about the quality and safety of medication management in assisted living (AL). As such, CEAL plans to work with the American Geriatric Society (AGS), American Society of Consultant Pharmacists (ASCP), and American Medical Directors Association (AMDA) to present sessions at conferences of the American College of Physicians (ACP), American Academy of Family Physicians (AAFP), and American Medical Association (AMA), among others. The goal will be to promote communication among physicians and the AL community regarding medication prescribing. CEAL will also take a representative seat at national discussions on the topic of health information technology with groups such as the Center for Aging Services Technologies (CAST) and the National Governors Association (NGA).

In 2008, CEAL plans to record a Webinar on medication management in AL that will air on the CEAL Clearinghouse. It will begin researching the existence of medication pocket guides for unlicensed assistive personnel (UAPs) and begin a collaborative initiative to disseminate them in AL facilities. The organization will also serve as the clearinghouse for educational initiatives, toolkits, and more. Plans are also in place to gather and post on the CEAL Clearinghouse information about existing guidelines and standards for the administration of as-needed (PRN) medications.

Provider Initiatives

CEAL recommends that the AL provider community develop improved communication practices for medication orders and changes, PRN medications, and the best times to contact prescribers. It suggests that the AL industry consider developing contracts between AL facilities and provider pharmacies to negotiate delivery times and increase quality control. The industry should research and consider the use of electronic medication management systems to improve accuracy of medication dispensing and reduce medication errors. CEAL urges AL facilities to provide clear disclosure about pharmacy services, fees, and what is required of residents and families. Facilities should consider the use of consultant pharmacists to educate residents, families, and staff about medication safety, and to provide medication review.

The AL industry is encouraged to develop educational programs for UAPs and provide more rigorous training, especially about high-risk medications such as warfarin, insulin, and digoxin. CEAL asks the industry to collaborate on the development of a pocket medication guide for UAPs and to provide education to residents and families about their responsibility in providing information on all medication use (including over-the-counter drugs and supplements) to the facility staff.

administration? We need to consider how the medication regimen fits into the resident's whole lifestyle. What are the operational issues that may clash with such a model? Should a case manager be hired to assess the needs of the resident? Or is that a role of the nurse?

- More nursing oversight is needed in AL settings.
- What is the role of the physician or nurse practitioner in medication management in AL?
- What are the problems with PRN medications (adverse reactions and side effects) in the AL setting?

Recommendations

In developing recommendations for future steps, the CEAL Board synthesized the comments of presenters and the feedback of Symposium participants. Emphasis was placed on designing systems to proactively intervene among staff, providers, and residents to reduce errors or problems with medication management.

System redesign would focus on (1) advocating for consistency in the medication management regulations across states, (2) improving training of unlicensed assistive personnel (UAPs), (3) streamlining documentation for greater efficiency and accuracy (in part through increased use of electronic health records), (4) standardizing medication packaging specific to the AL industry, (5) advocating for greater use of consultant pharmacists and physicians–physician extenders on campus, including the possible development of preferred provider networks, (6) promoting professional development of RNs to optimize their understanding of the AL philosophy and to emphasize the importance of their role in medication management.

Individualized medication management plans are needed to allow tailoring of appropriate PRN medications and polymedicine, based on an individual resident's needs and AL staffing. The plans would be based on a resident's decision-making capacity, competency, medical needs, and lifestyle choices. Proper communication of the plans to all involved stakeholders (eg, through electronic medication records [e-MARs]) is necessary.

Table 6 outlines the strategies for the coming year and beyond, including CEAL's role in promoting health information technology (HIT) and e-MARs, hosting a medication management Webinar this year, and researching a pocket medication guide for UAPs.

For more information on CEAL, see www.theceal.org. **ALC**

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