

Enhancing Medication Management in Senior Living: *How Technology and Data Are Transforming Resident Care*

As the U.S. population ages, senior living communities are caring for residents with increasingly complex medical needs. Medication management has become one of the most critical and challenging aspects of resident care. With many older adults taking multiple medications daily, communities must balance safety, efficiency, compliance, and personalized care. New technologies, particularly electronic Medication Administration Records (eMARs) and data-driven pharmacy services, are helping senior living providers meet these challenges while improving outcomes and quality of life.

The growing complexity of senior care

America's older adult population continues to grow rapidly, creating increased demand for senior housing, assisted living, and long-term care services. At the same time, residents are living longer with multiple chronic conditions such as diabetes, heart disease, arthritis, and cognitive impairment. Many require numerous medications to manage their health, making medication oversight more complicated than ever.

In a typical senior living community, residents often take an average of 15 medications. Polypharmacy, the use of multiple medications simultaneously, creates significant risks, including adverse drug interactions, medication errors, and non-adherence. Medication regimens may include daily prescriptions, insulin protocols, injectable therapies, medications with specific monitoring requirements, and as-needed treatments. For staff members who administer medication, the complexity can be overwhelming.

In a 100-resident community, up to 1,400 medication doses may be administered in a single day. Ensuring that every resident receives the correct medication at the correct dose, and at the correct time requires a high degree of operational precision and coordination.

The critical role of pharmacy services

Senior care pharmacists play a vital role in supporting safe and effective medication management. Their expertise extends beyond dispensing medications to include medication regimen reviews, identification of drug interactions and side effects, chronic disease management, staff education, and recommendations that improve safety and outcomes.



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Pharmacists also help communities address broader clinical priorities such as fall prevention, antibiotic stewardship, immunization programs, and regulatory compliance. Studies cited in the report show pharmacists can positively influence cardiovascular health outcomes, including reductions in blood pressure and cholesterol levels, while also supporting smoking cessation efforts.

By working closely with residents, families, physicians, and care teams, pharmacists help ensure medications are optimized to meet each resident's needs while minimizing risks and unnecessary costs.

The power of technology and data

Technology is rapidly transforming medication management in senior living. Electronic Medication Administration Records (eMARs), electronic health records (EHRs), computerized provider order entry systems, and clinical decision support tools are helping communities streamline workflows and improve accuracy.

One of the most significant advantages of eMAR technology is real-time visibility into medication administration. Staff can quickly identify missed doses, medication refusals, scheduling issues, and other exceptions that may require immediate attention. Integration between pharmacy systems and resident records reduces manual data entry, decreases communication errors, and ensures consistent information across platforms.

These technologies also improve compliance and accountability by creating detailed electronic audit trails. Communities can demonstrate medication accuracy, track administration activities, and more easily prepare for regulatory reviews. In addition, leaders gain access to dashboards and reporting tools that help identify trends, monitor performance, and prioritize quality improvement initiatives.

Perhaps most importantly, automation allows caregivers and nurses to spend less time on paperwork and administrative tasks and more time providing direct resident care.

Looking ahead

The future of medication management will rely increasingly on innovation and data. Emerging tools such as remote monitoring technologies, automated medication dispensers, wearable devices, telehealth platforms, and artificial intelligence are expected to further enhance medication adherence and personalization of care. AI-powered systems may help identify medication risks, optimize dosing, and support clinical decision-making.

At the center of these advancements is a simple goal: helping residents remain healthier, safer, and more independent for longer. Continuous quality improvement efforts supported by accurate, real-time data will enable senior living communities to proactively address risks, improve outcomes, and deliver more personalized care.

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As senior living evolves, the combination of expert pharmacy services, advanced technology, and actionable data will be essential for meeting the growing needs of older adults and ensuring the highest standards of care.

Sources:

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