



**Breaking the
Polypharmacy Cycle
in Senior Living:**
Strategies for Clinical
and Financial Success





Overview

Polypharmacy, broadly defined as the use of too many medications, poses a formidable challenge for senior living (SL) operators, with negative financial implications for communities and potentially harmful consequences for residents. As the older population in the U.S. continues to grow at an exponential rate and develops many of the medical conditions associated with aging, the reliance on multiple medications to address these issues has surged. As a result, the prevalence of polypharmacy in long-term care (LTC) communities has reached alarming levels.

A systematic review published in the *Journal of Post-Acute and Long-Term Care* revealed that among residents in these communities,

65%
**were taking more
than 10 medications**

The consequences of polypharmacy not only include an increased risk of adverse drug reactions, drug interactions, and falls among residents, but it also imposes a substantial financial strain on SL operators as residents require a greater level of care.

In the following pages, we will explore the definition of polypharmacy, its underlying causes, the detrimental effects on resident outcomes, the financial burden it places on SL operators, and steps to mitigate excessive use of medications.

Defining Polypharmacy and Its Drivers

Polypharmacy is a complex topic with varying perspectives. While no standard definition exists, it commonly refers to the use of five or more medications daily. A systematic review published in the *Journal of Post-Acute and Long-Term Care* revealed that among residents in these communities, 91% were taking more than five medications, while 65% were taking more than 10. However, this does not necessarily mean the prescribing of these medications is inappropriate.

Appropriate polypharmacy: Depending on a resident's health conditions, polypharmacy can be necessary. For instance, when someone takes multiple medications all prescribed for specific medical reasons at the correct doses and for the recommended duration, that's appropriate polypharmacy. Many medications may be necessary to treat a resident with multiple chronic conditions, such as diabetes, heart failure, high blood pressure, and high cholesterol.

Inappropriate polypharmacy: When someone takes more medications than necessary to treat a single disease or takes medications without a clear medical reason, this is inappropriate polypharmacy. It also includes the use of two or more medications from the same class, such as taking two statin cholesterol medications or two beta-blocker blood pressure medications.

With the Lown Institute predicting that inappropriate polypharmacy will cost the healthcare system an additional \$62 billion between 2020 and 2030, it's crucial to understand the drivers behind polypharmacy.

FACTORS THAT CONTRIBUTE TO POLYPHARMACY

Prescribing cascades: This occurs when a medication causes a side effect or adverse reaction which is misinterpreted as a new medical condition. In response, additional medications are prescribed to manage these new issues, creating a cycle of escalating prescriptions.

Clinical practice guidelines and limited deprescribing guidance: While clinical practice guidelines are valuable tools for guiding treatment decisions, they can inadvertently contribute to polypharmacy. These guidelines often recommend multiple medications for residents with one or more diseases, increasing the likelihood of polypharmacy. Additionally, the limited number of guidelines for deprescribing, the planned and supervised process of reducing and discontinuing drugs that are causing harm or are no longer needed, prolongs polypharmacy as residents continue taking these medications.

Increased availability of condition-specific medications: The growing number of medications available to treat diseases exacerbates the issue of polypharmacy. Factors such as direct-to-consumer drug marketing prompts resident requests for new medications, increasing prescriptions. Further, clinical practice guidelines recommending multiple medications for a single condition and the use of multiple prescribers who may lack a comprehensive view of a resident's entire medication regimen contribute to the problem.



CASE STUDY: Unraveling the Prescribing Cascade¹

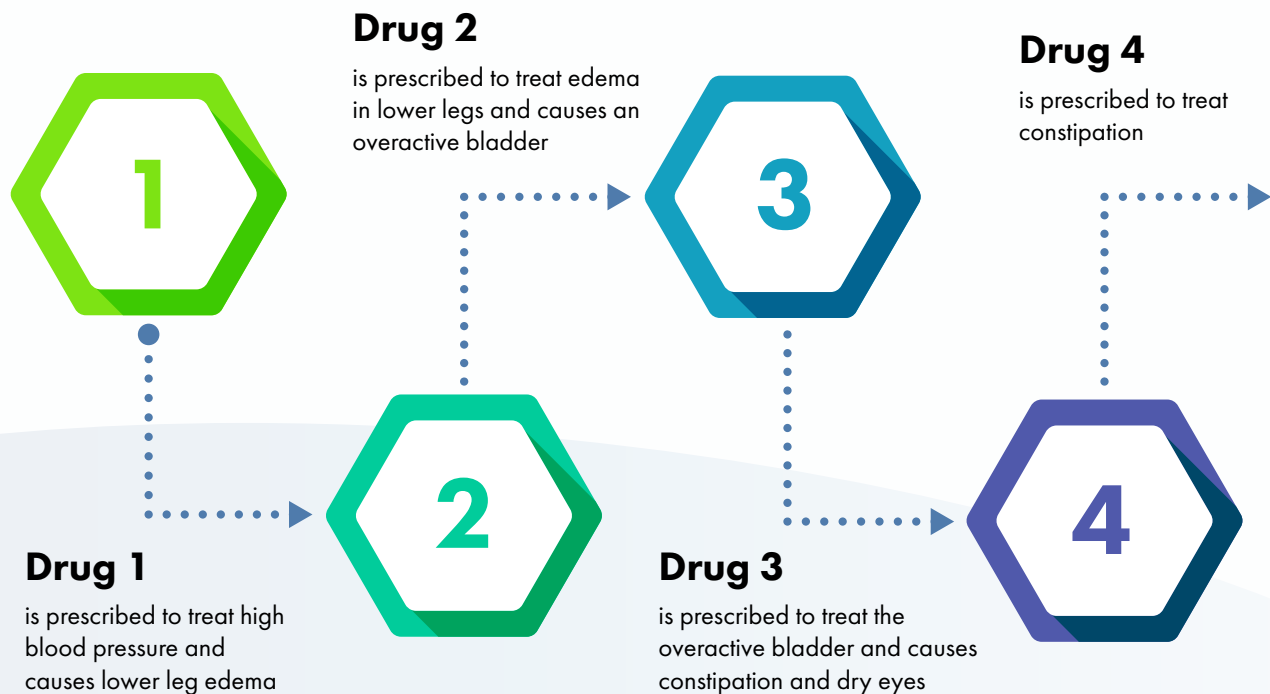
Meet Mary, a 71-year-old woman with high blood pressure, type 2 diabetes, asthma, hypothyroidism, depression, osteoarthritis, and Ménière's disease.

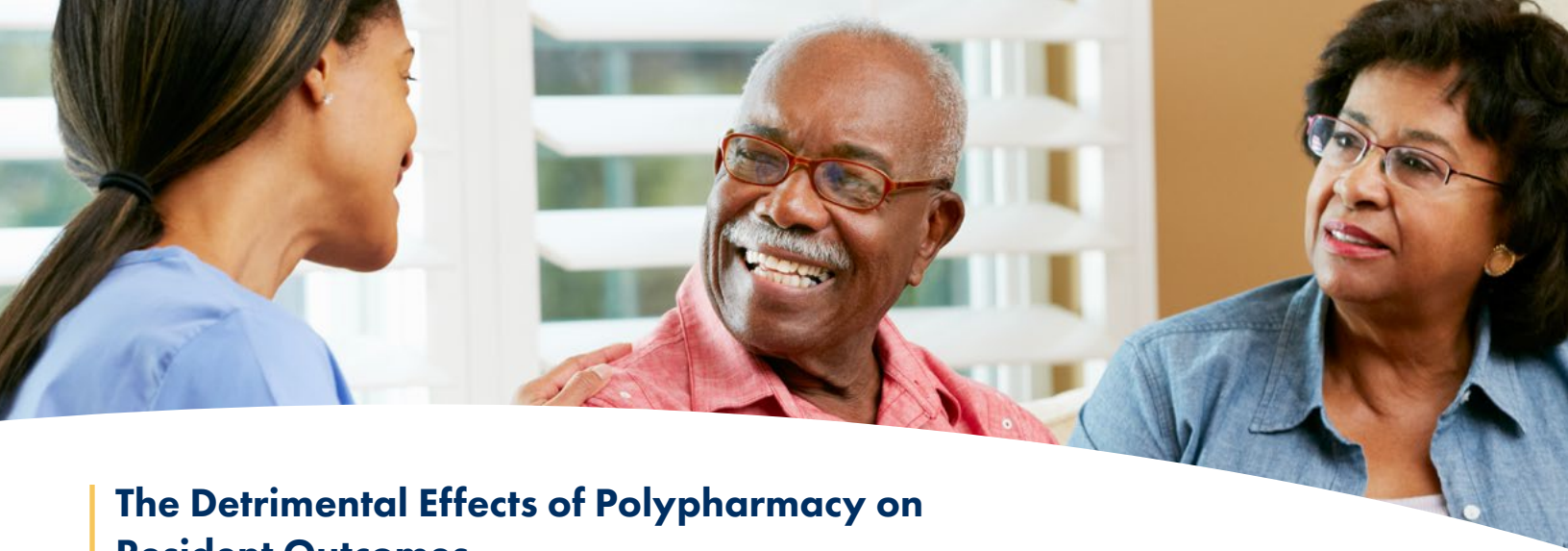
To treat her high blood pressure, Mary's family physician prescribed amlodipine 2.5 mg twice daily. Three weeks later, her cardiologist prescribed two diuretics, furosemide 20 mg and spironolactone 25 mg, once daily, to treat edema in her lower limbs. Soon after, her urologist prescribed an antimuscarinic, solifenacin 10mg once daily to treat overactive bladder symptoms. A month later, Mary's family physician prescribed Senna-S twice a day and artificial tears to manage constipation and dry eyes.

Four weeks later, Mary lost her balance in the bathroom and fell, hitting her head and back against the bathtub. An X-ray revealed multiple fractures in her lumbar spine, and the fall was attributed to gait and balance problems from various causes (osteoarthritis, deconditioning, drugs, and stroke).

A pharmacist who reviewed her medication history found that amlodipine was the root cause of her issues. The medication caused lower leg edema, necessitating diuretic treatment, resulting in increased urinary frequency and urgency. The urologist's prescription of solifenacin resulted in constipation and dry eyes.

The pharmacist conducting Mary's medication review recognized the prescribing cascade and recommended discontinuing amlodipine and using an angiotensin-converting enzyme inhibitor to manage Mary's high blood pressure. Additionally, the pharmacist recommended discontinuing furosemide, spironolactone, solifenacin, Senna-S, and artificial tears. The prescriber agreed. This intervention reduced Mary's risk of further harm from her medications.





The Detrimental Effects of Polypharmacy on Resident Outcomes

Polypharmacy has serious consequences for residents, leading to a range of negative outcomes that affect their health and well-being. It increases the risk of falls, adverse drug reactions, medication interactions, and non-adherence. This results in longer hospital stays, more frequent readmissions, and even higher mortality rates. In fact, polypharmacy is responsible for nearly 30% of all hospital admissions and ranks as the fifth leading

cause of death in the United States, according to Health Research Funding.

But the consequences of polypharmacy go beyond health outcomes. Residents dealing with polypharmacy also face higher healthcare costs, with expenses nearly doubling compared to those without polypharmacy.

The Financial Impact of Polypharmacy on SL Communities

Increased Labor Costs

With the SL industry already facing staffing shortages, the rising labor costs and additional hours needed to manage complex medication regimens can pose a significant financial burden. The need to continually address the challenges that arise from polypharmacy prevents medication administration staff from completing other essential responsibilities. More medications result in longer and more frequent medication passes and add considerable staff time to closely monitor residents for adverse effects and potential drug interactions. As a result, there is a need to employ a larger staff to manage the increased workload, adding to the strain and contributing to the financial impact.

Reduced Length of Stay

While keeping residents in place as they age in lower acuity care settings is financially beneficial for SL operators

and better for the individual, polypharmacy presents a challenge. It creates medication complications for residents that lead to higher hospitalization rates, increased visits to the emergency department, and accelerated transitions from assisted living to skilled nursing settings.

These factors significantly affect the bottom line of SL communities, resulting in various cost implications and operational challenges. These include expenses related to discharging and readmitting residents and the need for extra nursing hours to manage transitions between the hospital and community. The reduced length of stay also requires SL operators to allocate marketing resources and time to attract and secure new residents to maintain high occupancy rates. Consequently, SL operators face the dual challenge of managing the financial impact of polypharmacy while actively pursuing strategies to maintain optimal occupancy levels for long-term success.

| Strategies to Reduce Polypharmacy

Reducing polypharmacy in SL communities can be difficult, but there are effective strategies that can ease the burden:

1 **Know your residents, their conditions, and medication purposes**

Medication administration staff should possess a comprehensive understanding of residents, their medical conditions, and the intended purposes of each medication. This in-depth knowledge helps identify situations where medications lack a reason for use or have excessive dosages. Staff should actively seek clarification from prescribing physicians or consultant pharmacists and maintain awareness of potential side effects to prevent unnecessary prescribing cascades. Reducing polypharmacy requires teamwork and a willingness to question prescribing practices and consider alternative approaches when appropriate.

2 **Engage residents and their families to assess preferences and concerns**

In order to foster medication reduction and mitigate the risks of polypharmacy, it is essential for nursing staff to proactively engage with residents and initiate meaningful conversations. Studies have demonstrated that residents are receptive to the idea of reducing medications when it is presented to them. However, these conversations often require prompting. By taking the initiative to have face-to-face discussions and listening to residents and their families about each medication, nursing staff can gather valuable insights and effectively communicate this information to prescribers. This approach allows for tailoring a medication regimen that meets the resident's needs and preferences, decreasing the risk of adverse events associated with polypharmacy.





3 Utilize an LTC pharmacy partner to reduce polypharmacy

To address polypharmacy in SL settings, harnessing the expertise of pharmacists can generate significant benefits. Your LTC pharmacy partner should:

- **Be a vital member of the medication management team:** LTC pharmacists have extensive expertise in identifying residents with polypharmacy risks. As part of the care team, they will conduct thorough medication reconciliations during care transitions and simplify complex medication regimens. They collaborate closely with the multidisciplinary team, providing valuable insights and recommendations for enhancing medication management practices. During these important visits, the pharmacists should engage in comprehensive discussions with the community, focusing on clinical interventions, antibiotic use, psychotropic utilization, and identifying residents suitable for medication deprescribing. Quarterly pharmacist consultations result in a remarkable reduction in polypharmacy.
- **Perform clinical interventions and provide data-backed insights:** Pharmacists should intervene and track the results of their efforts to ensure that resident drug combinations are safe, medications are necessary and appropriate, and potential risks are identified and addressed proactively. SL operators can gain peace of mind by accessing this data and analytics reporting from their LTC pharmacy partner measuring the pharmacy team's clinical impact. This information can be leveraged to further improve clinical outcomes.
- **Leverage the power of technology:** LTC pharmacies pair advanced technology solutions with their expert staff to enhance medication safety. Technology plays a pivotal role in efficiently identifying drug interactions and duplicate therapies, complementing the critical thinking skills of pharmacists and nursing staff. While technology is a valuable tool, it is important for pharmacy and community staff to possess a comprehensive understanding of its functionality and provide human oversight to ensure proper use.

Conclusion

Breaking the cycle of polypharmacy is crucial to improve healthcare outcomes and reduce costs. By eliminating unnecessary medications, you reduce the risk of adverse effects, prescribing cascades, drug interactions, falls, and hospitalizations. Collaborating closely with pharmacists is essential to optimize medication use and ensure the safe and effective administration of medications to residents. This partnership decreases the likelihood of polypharmacy and its associated risks, ultimately promoting better resident health and well-being while achieving financial success.

¹ Nguyen PV, Spinelli C. Prescribing cascade in an elderly woman. *Can Pharm J (Ott)*. 2016 May;149(3):122-4. doi: 10.1177/1715163516640811. Epub 2016 Apr 1. PMID: 27212961; PMCID: PMC4860747.

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