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Medication Management Skills in Older Skilled Nursing Facility Residents Transitioning Home

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To The Editor

Transitions of care between health settings are common and risky for older persons. One increasingly common and understudied transition of care for older patients is from the skilled nursing facility (SNF) to home.^{1,2} Most older SNF residents come from the hospital setting and have an additional transition of care to home in less than 90 days. Moreover, the

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majority of residents are discharged without medication reconciliation at discharge and/or home health services to provide coordinated medication management services.^{3,4} Because these SNF residents are more likely to have polypharmacy, changes in health status, and longer periods of time without being responsible for medication administration, it is likely that this transition from SNF to home could often lead to drug-related problems.^{3,4} Unfortunately, to the best of our knowledge, there is only one study on this issue, which documented that over 90% of SNF to home discharges encountered drug-related problems.⁵ Thus, we sought to describe potential medication management deficiencies in a pilot study of older SNF residents transitioning home.

Methods

We conducted a prospective, cross-sectional study of 10 older adults who were transitioning from a single SNF (Pittsburgh, PA) to home. Those participants able to consent underwent an evaluation of medication management skills prior to discharge from the SNF to home using two instruments, which included: the Medication Administration Test (MAT) (using mock prescription vials/labels and tablets with a 10 medication regimen, the resident's ability to adhere with a hypothetical 24-hour day was evaluated), and the Medi-Cog (a combination of the Mini-Cog and a Medication Transfer Screen, which assessed the resident's ability to transfer medications to a pillbox).^{6,7} Descriptive statistics were used to summarize the results. The University of Pittsburgh institutional review board approved this study.

Results

The mean age was 81.4 years, and the majority of participants were white (70%) females (100%). Most (80%) residents would be living alone at home upon SNF discharge and were widowed (70%).

For the MAT (range: 0-100, lower scores indicate more errors), the mean (standard deviation, sd) time taken for completion of the task was 8.1 (6.1) minutes, with a mean (sd) number of errors of 1.6 (2.2). The average overall MAT score was 69 (26.4), indicating the presence of at least one error in every resident. For the Medi-Cog (range: 0-10, lower scores indicate greater cognitive impairment and worse ability for medication management), the mean (standard deviation, sd) score was 6.5 (2.6), comprised of a mean Mini-Cog score of 3.3 and a mean Medication Transfer Score of 3.2, indicating almost two errors per resident.

Discussion

This pilot study provides some of the only data on potential medication management deficiencies in older SNF residents transitioning home. To the best of our knowledge, only one study has documented that over 90% of SNF-to-home discharges encounter drug-related problems (e.g., incorrect dosage, omitted therapy, therapeutic duplication, patient non-adherence, and contraindicated drug use).⁵ Similarly, we found medication management deficiencies to be common in a high-risk group of elders making this important transition. The most important limitation of this study was the small sample size (especially for men).

Compared to other transitions of care, SNF-to-home may be inherently riskier. There are key differences between the transition of SNF-to-home and hospital-to-home, and they include: a.) SNF residents are the frailest older adults and take more medications than any other segment of the population, b.) the SNF setting lacks standard practices for medication reconciliation compared to acute care, despite being a National Patient Safety Goal directed by The Joint Commission, c.) SNF stays are (on average) longer than hospital stays, thus SNF residents have a longer period of “passive” medication use (i.e., not being in charge of medication administration), d.) the consultant pharmacist is only *retrospectively* involved in conducting drug regimen reviews monthly during the SNF stay, e.) the attending provider visits the patient infrequently during the SNF stay, and f.) the hand-off to the community health care providers is often fragmented.^{1,3,4} Taken together, these transitions differ in important ways and likely require difference strategies for intervening to improve patient care and safety.⁵ In other words, simply implementing the same procedures as are used at hospital discharge is unlikely to be successful.

The gaps in knowledge regarding drug-related problems after SNF discharge are likely legion. We know little about the extent of the problem, the concerns of involved parties or the potentially unique needs of the population and settings. Future research is needed to determine the effectiveness of patient-tailored transition services that include medication-related oversight for these high-risk patients.¹

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References

1. American Medical Directors Association. [Accessed October 7, 2014] White paper C-09: Improving transitions of care from the nursing facility to a community-based setting [online]. Available at www.amda.com/governance/whitepapers/transitions_of_care.cfm
2. Murtaugh CM, Litke A. Transitions through postacute and long-term care settings: patterns of use and outcomes for a national cohort of elders. *Med Care*. 2002; 40:227–236. [PubMed: 11880795]
3. Oakes SL, Gillespie SM, Ye Y, Finley M, Russell M, Patel NK, Espino D. Transitional care of the long-term care patient. *Clin Geriatr Med*. 2011; 27:259–271. [PubMed: 21641510]
4. Kackman AL, Corbett CF, Schumann L, Setter SM. Medication reconciliation for older adults transitioning from long-term care to home. *Ann Longterm Care*. 2011; 19:25–29.
5. Delate T, Chester EA, Stubbings TW, Barnes CA. Clinical outcomes of a home-based medication reconciliation program after discharge from a skilled nursing facility. *Pharmacotherapy*. 2008; 28:444–452. [PubMed: 18363528]
6. Schmidt KS, Lieto JM. Validity of the Medication Administration Test among older adults with and without dementia. *Am J Geriatr Pharmacother*. 2005; 3:255–261. [PubMed: 16503321]
7. Anderson K, Jue SG, Madaras-Kelly KJ. Identifying patients at risk for medication mismanagement: using cognitive screens to predict a patient's accuracy filling a pillbox. *Consult Pharm*. 2008; 23:459–472. [PubMed: 18764676]