This paper describes the implementation of a medication management model within a medical-center based home health agency. The model was integrated into the agency’s quality improvement falls prevention program and was selected in part because it directly addressed two medication-related accreditation standards for home health care agencies. During a five-month period, a staff pharmacist conducted medication reviews for 228 HHA patients who met the program’s inclusion criteria. Thirty-three percent of these patients required some type of follow-up to resolve potential medication-related problems. By far, falls were the most common reason for referral, with 71 patients, or 30% of all participating patients, referred to the pharmacist due to a recent fall. From a quality improvement standpoint, the program met and even exceeded expectations in that it enabled staff to identify a
Integration of a Medication Management Model into Outcome-Based Quality Improvement: A Pilot Program in a Rural Proprietary Home Healthcare Agency

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This article describes a rural proprietary home health agency’s successful initiative to adapt a previously tested medication management model and integrate it into existing processes of care. The rationale to improve medication management in response to current national fiscal, clinical, and external quality measures and evolution of this process in the agency is detailed. The agency refined the model’s screening procedures, incorporating them into the mandated OASIS assessment and then computerizing the medication risk analysis, in keeping with the original intent of the model. In a four-month pilot test of the computerized risk assessment procedure 1006 OASIS assessments were screened; risk factors for medication-related problems in 201 (19.9%) resulted in pharmacist review. Of these, 30 (17%) were ruled out as potential medication errors, 143 (82.6%) were found with potential MRP and 58 (33.5%) had evidence of problems warranting follow-up. With this computer-assisted process, the agency created a more comprehensive assessment that was in line with the new regulatory emphasis on patient outcomes. Consultant pharmacist services also transitioned from drug regimen review to more comprehensive medication therapy management. By enhancing efficiencies in its medication management program, an agency not only stands to improve quality of care, but also to maximize resources, making the intervention affordable to implement and decreasing burden on staff.

KEYWORDS. OASIS assessment, medication therapy management, OBQI, home health care, pharmacist interventions, model of care

Medication Management Model as Experiential Education Tool for Students of Pharmacy

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A visiting nurse association (VNA) and a college of pharmacy sought cost-effective models by which consultant pharmacy services could be offered at a rural branch office to improve medication management for high-risk patients. Through a collaborative relationship with the Albany College of Pharmacy, the Eddy VNA used the structure and support of the Partners in Care Foundation (The Model) Medication Management Model to simultaneously provide patient services and train Doctor of Pharmacy candidates. The Model brings the pharmacist into the homecare team to provide pharmaceutical care and can provide the framework by which pharmacist preceptors and interns can effectively provide services to high-risk pa-
patients identified through the agency’s CQI process. Results from program implement-
ation with 100 Medicaid waiver patients indicate positive staff response and an
overall 43% acceptance rate with prescribers and suggest that this is a cost-effec-
tive medication management service with implications for adaptation by other
HHAs.

KEYWORDS. Adverse drug event, clerkship, experiential education, home health
care, medication management, falls, CQI, pharmacist, consultation

Reaching the Homebound Elderly: The Prescription
Intervention and Lifelong Learning (PILL) Program
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This article describes the Prescription Intervention and Lifelong Learning (PILL)
program, a three-year pilot project to develop in-home pharmacy care services to
clients of a community-based social service agency. Clients who were homebound,
at least 62 years of age, and taking at least five medications were eligible for inclu-
sion. Potential participants were referred by care managers to the pharmacist, who
conducted an in-home evaluation of the medication regimen and assessed the risk
for medication-related problems. The pharmacist provided instruction for hyper-
tension and diabetes mellitus self-monitoring, extensive medication counseling for
clients with complex medications regimens, and conducted other activities to pro-
mote positive medication-related outcomes. The clients served were primarily fe-
male, between 70 and 90 years of age, and almost one-half lived alone. They were
taking an average of more than nine medications daily, and had at least one chronic
disease. The clients of the social service agency were highly vulnerable to med-
ication-related problems and were in need of in-home pharmacy care services.

KEYWORDS. Home health care, medication-related problems, elderly, pharma-
cist interventions, geriatric drug use

Comment on Medication Management Models
and Other Pharmacist Interventions: Implications for Policy
and Practice
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Implementation of the Medicare Modernization Act (MMA) of 2003 poses challenges
for policy makers and administrators, not the least of which is a provision that
high-risk or “targeted” beneficiaries receive Medication Therapy Management
(MTM) Services. To ensure that Congressional intent is carried out when Medicare
Part D goes into effect in January 2006, the Centers for Medicare & Medicaid Ser-
dices (CMS) is responsible for issuing regulations to operationalize MTM Ser-
dices. This article comments on the policy and practice implications of providing
such services, including recommendations of the American Society of Consultant Pharmacists (ASCP) and presents findings from the Medication Management Model and other community-based pharmacist-centered interventions as examples of solutions to improve medication management and prevent medication-related problems in Medicare beneficiaries.

KEYWORDS. Medication Therapy Management, Medicare Modernization Act, pharmacist services, home health

Polypharmacy and Possible Drug-Drug Interactions Among Diabetic Patients Receiving Home Health Care Services

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Objectives: In this study, we examined the drug regimens of diabetic patients receiving home health care services to measure the prevalence of polypharmacy and to assess the likelihood of drug-drug interactions, a consequence of polypharmacy.

Design: The sample consisted of 139 diabetic patients who received home health care services from one home health agency in a large mid-Atlantic city. The data were collected from March 1, 1998 to September 30, 1999. Information regarding medications was collected by the home health nurse during the initial home visit and was recorded on the medication sheet in the patient’s clinical record. Any changes in medications were noted on the medication sheets.

Methods: We identified all systemic medications prescribed for 139 home health patients. To assess drug-drug interactions, we used Micromedex® formulary DRUG-REAX® System.

Outcomes: We calculated (1) the number of systemic medications taken, and (2) the number of possible severe, moderate, and mild drug-drug interactions.

Results: We found that the average number of medications taken was 8.9 (SD 3.4) prescribed medications per day. Our results show that 38.8% of the patients in the sample could potentially be subject to at least one severe drug-drug interaction. Nearly all of the patients (92.8%) were at risk for moderate drug-drug interactions, and 70.5% could have mild drug-drug interactions.

Conclusion: We conclude that polypharmacy is a concern for home health care patients with diabetes and the potential for drug-drug interactions is substantial. Our results indicate that the drug regimens of diabetic patients should be monitored systematically to avoid adverse events such as hospitalization. Family practitioners and home health care takers are in a unique position to identify polypharmacy and to modify drug regimens.

KEYWORDS. Polypharmacy, drug-drug interaction, diabetes, home health practitioners, elderly care, drug monitoring
Opportunities for Improving Post-Hospital Home Medication Management Among Older Adults  

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Effective post-hospital home medication management among older adults is a convoluted, error-prone process. Older adults, whose complex medication regimens are often changed at hospital discharge, are susceptible to medication-related problems (e.g., Adverse Drug Events or ADEs) as they resume responsibility for managing their medications at home. Human error theory frames the discussion of multi-faceted, interacting factors including care system functions, like discharge medication teaching that contribute to post-hospital ADEs. The taxonomy and causes of post-hospital ADEs and related risk factors are reviewed, as we describe in high-risk older adults a population that may benefit from targeted interventions. Potential solutions and future research possibilities highlight the importance of interdisciplinary teams, involvement of clinical pharmacists, use of transitional care models, and improved use of informational technologies.

KEYWORDS. Older adults, medication management, medication errors, post-hospital, hospital discharge, human error theory, home care

Risk of Medication Errors at Hospital Discharge and Barriers to Problem Resolution  

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Medication errors are common among older adults, particularly among those who are at heightened risk due to transfer between care settings. Determining accurate medications for hospitalized patients is a complicated process. This paper presents findings from a small pilot study conducted to identify medication documentation problems at the point of hospital discharge among older adults and the problems encountered in developing new technological systems to address these problems. A prospective study was conducted within a managed care medical center that included patient and physician surveys and chart reviews. A review of 104 medical records revealed several problems in the documentation of patient medication including legibility, use of medical abbreviations and incomplete and missing entries. While patients overall were satisfied with medications communication efforts at discharge, physicians surveyed reported that these methods were inadequate in transmitting medication lists to primary care physicians, patients and other care providers. Patients reported taking more drugs than what were listed in the medical record. These findings led to the development, testing, and implementation of an electronic medication sheet. Despite the success in developing this new system, few physicians engaged in its use, with most preferring to continue with their standard discharge practices of written communication.

KEYWORDS. Medication errors, hospital discharge, care transition, older adults, electronic medication record
As the population ages worldwide, it is important to examine the challenges that are presented in the use of pharmaceutical treatments. This article comments on what is being done in the international community to promote rational use of medications and elimination of medication-related problems. Efforts are underway to identify elders at highest risk and to encourage communication and collaboration between the patient and the health care team, as well as collaboration among disciplines. Solutions to improve medication management are discussed, particularly those presented at a recent conference on Medication Management in Older Patients held under the aegis of the United Nations’ International Institute on Ageing (INIA), Malta. These include evidence-based prescribing, interdisciplinary collaboration with increased clinical pharmacist involvement, and implementing programs that increase concordance between patient and health practitioner. Among the conference’s conclusions is that more resources need to be allocated for medication management in the home arena.

KEYWORDS. Medication management, older persons, evidence-based prescribing, interdisciplinary collaboration, concordance, pharmaceutical care, domiciliary services