

Community-based Medication Management Intervention Vignettes—*CLINICAL*

Mr. Lopez, an MSSP client, was part of the Medication Management intervention in October 2004. He was an 89-year-old Latino male, monolingual Spanish speaker with a grade school education and living with his second wife. Outside a hired caregiver, he had step-children active in his care. He was at high fall risk secondary to arthritic knee pain, poor vision, history of hallucinations, and poor mobility, requiring two canes to ambulate. Upon medication screening, three potential medication related problems were identified: 1.) NSAID with risk factor for peptic ulcer disease: over age 80 years and taking celecoxib 200mg BID; 2.) potential therapeutic duplication of pain medications: tramadol 50mg TID plus celecoxib; 3) possible confusion in conjunction with antipsychotic agent: risperidone 25 mg QHS was prescribed for severe auditory hallucinations but possibly also contributed to cognitive impairment.

Mr. Lopez was very resistant to advice from his stepchildren, suffering short-term memory loss and compounding poor medication adherence.

The case was discussed with the care manager. Education regarding the potential medication problems was provided to the caregiver. The need for medication regimen compliance was emphasized to the caregiver and with intervention from the consultant pharmacist, the use of Ultram was encouraged versus Celebrex to prevent NSAID-induced gastro-intestinal bleed.

At follow-up, celecoxib was discontinued thus eliminating therapeutic duplication and GI-bleed risk. Mr. Lopez reported that his pain was much more controlled with tramadol. Due to severe dementia, there was no change made to the risperidone.

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Mrs. Krikorian, a 67-year-old Armenian MSSP client with grade school education had medications screened by the intervention team in September 2004. She lived with her husband. Her daughter was her primary caregiver. Due to poor mobility and ambulation with cane, she was at risk for falls. Pertinent medical history included hypertension, arthritis, and cardiac issues. She was taking eight medications with two potential problems were identified and confirmed. She took a beta-blocker, atenolol 50mg BID, and screened in with high blood pressure measurements (*e.g.*, BP: 207/98). She also reported recent dizziness and confusion which could have been attributed to the benzodiazepine alprazolam and tricyclic antidepressant amitriptyline. Anticholinergic effects of both medications contribute to fall risk, particularly in elderly patients. The pharmacist suggested an SSRI (selective serotonin reuptake inhibitor) as an alternative antidepressant. Her physician was contacted and informed about the problems. At follow-up, blood pressure medications were changed. Despite improved BP control, she had episodes of low pulse and a second intervention was performed. Alprazolam was discontinued with confusion and dizziness no longer reported. Her physician was informed, at second intervention, that pulse was 50 at two different readings, possibly attributable to atenolol (in conjunction with her calcium channel blocker, amlodipine) can cause low pulse. Although low-pulse was problematic, the physician chose not to change the medication regime because her hypertension was now under control and her pulse measurements were only marginally low.

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Mr. Smith, an 84 year old, single, Caucasian male, entered the Medication Management Intervention in January 2005. A certified dentist for 55 years, he was highly educated and living alone. His caregiver of several years and his neighbor were responsible for assisting him with ADLs and IADLs. He was primarily bed-bound but occasionally used a wheelchair. Medical diagnoses included Alzheimer's disease (AD), prostate cancer, and hypertension. He had recently started chemotherapy, worsening his AD and leaving him feeling weakened. He also began to experience falls due to Sundowner's Syndrome. Earlier in the year he was hospitalized due to a fall. Mr. Smith was found to be taking 12 prescription medications and 15 supplements routinely, administered by his caregivers. The pharmacist confirmed two medication problems: 1.) therapeutic duplication with duplicate beta-blockers (metoprolol extended-release 25 mg QD and atenolol 100 mg QD); and 2.) increased risk of falls secondary to beta-blocker in conjunction with a benzodiazepine (diazepam 10 mg TID PRN). Upon further investigation, the pharmacist was informed that the caregiver was unaware that Mr. Smith was taking two medications from the same category and atenolol was discontinued after clarification of the prescriptions. The physician's office was contacted. Diazepam was kept for occasional use for spasms, despite pharmacist counsel, and the caregiver was educated on the increased risk of falls.

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In August 2005, the Medication Management team screened Mrs. Jones' medication. She was an 87 year old African-American widow. In the last year, she had been hospitalized multiple times due to chest pains and shortness of breath. She described her health as poor. Medical diagnoses included IDDM, HTN, CHF, angina, history of cardiac surgery, arthritis ("all over her body"), bilateral glaucoma, S/P bilateral cataract surgery, knee replacement, and history of hypothyroidism. She also reported a history of falls, attributed by poor mobility and unsteady balance. Ambulation was by cane or wheelchair. She was lived alone with assistance from an IHSS caregiver during the weekdays. A home health nurse administered insulin two times per day. She also received informal care from a niece. At the time of medication screening, her regimen included 27 different medications, some of which she occasionally forgot to take. Two medication related problems were recognized: 1.) therapeutic duplication of dual antihistamines (loratadine and hydroxyzine pamoate) was confirmed and identified as a possible source for sedation and dizziness that could lead to an increase in falls especially when taken concurrently with her muscle relaxant, baclofen; and 2.) suboptimally-controlled hypertension, although unconfirmed at the time of the assessment due to the lack of a second blood pressure measurement. At the time of intervention, Mrs. Jones was taking a loop diuretic, furosemide, and the angiotensin II receptor antagonist losartan for hypertension. Both problems were addressed in a letter to the physician. Over the next month, the client continued to experience uncontrolled HTN. At October follow-up, Mrs. Jones' medication had changed. Both hydroxyzine and baclofen had been discontinued thus eliminating the therapeutic duplication and decreasing her fall risk. There were no BP changes noted; however, the client had been hospitalized in September for HTN and she had been prescribed two additional antihypertensives. One month post-follow-up, progress notes charted that her blood pressure was controlled.

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Mrs. Kelly, a 66 year old, African American, MSSP client became a Medication Management Intervention client in May 2005. She was married and living with her husband. With assistance from a caregiver and her other children, she also cared for a quadriplegic son. Her medical history included IDDM, COPD, internal hemorrhoids, diabetic neuropathy (progressing beyond 20 years), and sleep apnea. Mrs. Kelly had two prescribing physicians and her prescriptions were filled at two different pharmacies. She reported anxiety due to problems trying to refill her current prescriptions. As a result of her anxiety and lack of medication, she was not compliant with her medication regimen. In the past months, she reported experiencing substantial dizziness. At the time of intervention, she was taking 19 medications with 4 potential medication problems identified. Two of her medication problems were therapeutic duplications: 1.) dual diuretics (valsartan/HCT and furosemide) and 2.) two proton-pump inhibitors (esomeprazole and lansoprazole). The remaining confirmed problems were: 3.) sub-optimally controlled blood pressure; and 4.) a recent fall which may have been the result of a benzodiazepine (Lorazepam 1mg TID PRN). Mrs. Kelly was taking multiple antihypertensives: verapamil 80 mg QD, valsartan/HCT 160/12.5 mg QD, and furosemide 80 mg BID. Issues were addressed with the client, care manager and physician. Upon further discussion with the client, the pharmacist was informed that she takes esomeprazole or lansoprazole but since she was having a hard time refilling her prescriptions she took whichever one was available. Benzodiazepine was ruled out as a cause for her fall because she rarely took the lorazepam (less than _____). At follow-up, the physician offered a short hospital stay to assess dizziness but the client refused. The physician followed-up with the pharmacist and stated that Mrs. Kelly was already at maximum doses of antihypertensives and such high dosages could be causing dizziness. Lack of medication adherence may explain the client's history high blood pressure readings.