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Researchers Test Innovative “IT” Interventions to Improve Patient Safety by Reducing Medication Problems at Home

New York, NY- The Center for Home Care Policy & Research, Visiting Nurse Service of New York (VNSNY) is launching a new study to test state-of-the art, information technology (IT) strategies that will alert home care nurses to patients at high risk for medication management problems so that they can take immediate action to prevent potentially serious harm from happening.

Poor medication management has been identified as one of the most frequent risk factors that lead to unplanned hospitalizations and emergency department visits. Patients are particularly vulnerable when transitioning from one care setting to another. At admission, the average home care patient takes six to eight medications, with 20 percent taking nine medications.

“When chronically ill patients transfer to home care from another health setting, it’s a perfect storm for serious drug complications that can put patients back in the hospital,” said Penny Hollander Feldman, Ph.D., principal investigator of the study and director of the Center for Home Care Policy and Research, VNSNY.

In “Improving Medication Management Practices and Care Transitions through Technology” (IMPACT), a randomized, controlled trial, researchers are testing innovative IT interventions designed to improve clinical practice. The intervention involves a sophisticated alert system to flag patients at risk and electronically notify nurses on mobile computers so that they can avert possible danger and an electronic decision support tool with specific practice recommendations to aid the nurse in improving medication management for high risk patients.

In one arm of the study, custom-tailored patient information will be delivered directly to the patients’ homes to complement the nurse intervention. This information will be made available in electronic, CD or pamphlet formats, depending on the preference of the patient. The target population is chronically ill patients who are age 65+ and take multiple medications and/or have complex medication regimes.

“We are harnessing the power of information technology to test timely, comprehensive, cutting-edge interventions for both home care nurses and chronically ill patients to reduce the dangerous medication-related problems that can occur during potentially perilous patient transitions,” said Dr. Feldman.

About 25 percent of home care patients are hospitalized during or immediately after their home health stay, with higher rates of hospitalization for patients suffering from heart failure and diabetes. Older adults in home health care often have two or more chronic conditions such as diabetes, hypertension, lung disease and heart failure.

Better communication and information have been found to be key elements of successful patient transitions. Missing information and incorrect information have been identified as two factors that undermine the safety of patient transitions.

“Proven, cost-effective information and communication strategies to improve medication management in the home health care setting are sorely lacking,” said Dr. Feldman. “Findings from the IMPACT study will provide important information to fill a critical knowledge gap on strategies that will identify patients at high risk to prevent medication-related adverse events.”

In the United States, the average age of patients admitted to home care was 75 in 2006. Half of home care patients require assistance in administering their medications and half of home care patients have some level of functional impairment.

The Center is collaborating with Liliana Pezzin, Ph.D., Associate Professor at the Medical College of Wisconsin, who will conduct the cost and cost-effectiveness analyses of the IT interventions being tested.

The Center’s three-year IMPACT study has been made possible with a \$1.2 million grant from the Agency for Health Care Research and Quality (AHRQ), a federal agency committed to helping the nation improve its health care system by conducting and supporting a wide range of health services research. The study is being conducted through the Visiting Nurse Service of New York, the largest nonprofit home care agency in the United States.

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The [Center for Home Care Policy and Research](#) conducts scientifically rigorous research to promote the delivery of high quality, cost-effective care in the home and community and support informed decision making by policy makers, payers, managers, practitioners, and consumers of home and community based services. The Center has a close relationship with its parent agency, the [Visiting Nurse Service of New York](#), the largest nonprofit home care agency in the United States, which enables the Center to conduct research that is broadly applicable to real-world home care settings.