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**Photo:** Karen Farris, Ph.D., UI associate professor of clinical and administrative pharmacy and principal investigator for the project. [Click here for a high-resolution version of the image.](#)

### **UI researchers urge awareness of drug interactions, duplication**



Over-the-counter medications should not be overlooked when it comes to potential health risks from drug interactions and duplication, especially among seniors who are taking both prescription and non-prescription medications. That is according to University of Iowa College of Pharmacy researchers who analyzed data from the Iowa Priority Prescription Savings Program, a program to provide prescription-drug discounts to Medicare-eligible Iowans.

As of Dec. 1, nearly 25,000 elderly Iowans had signed up for the Iowa Priority program. As part of the program, members could receive a "Brown Bag Assessment" of their prescription, non-prescription and natural remedy medications. Members bring all of their medications to one of the program's participating pharmacists or physicians who identify drug safety issues, determine if generic or lower-cost alternative drugs are available and how much money a member can save.

As of last July 31, slightly more than 13 percent of Iowa Priority members had received a medication assessment. UI researchers analyzed nearly 1,600 of these assessments, looking at factors such as members' gender, age, number of drugs taken, the presence of one of 19 self-reported health conditions and self-reported health status. Each drug in the assessments was categorized as being a prescription, non-prescription or natural remedy medication. Patient safety issues, such as drug interactions or drug duplication, were assigned to one of the medication categories.

"One goal of the study was to determine which types of medications accounted for the potential safety problems that older Iowans may experience," said Karen Farris, Ph.D., UI associate professor of clinical and administrative pharmacy and principal investigator for the project. "Non-prescription medications were much more important than we had initially thought."

The researchers found that individuals who received a medication assessment were mostly female, an average age of 77 and taking more than five medications. One-third of the individuals to receive an assessment (532 people) had at least one potential patient safety issue identified; these individuals tended to take more medications and have chronic medical conditions such as asthma, diabetes, high blood pressure or high cholesterol.

Among the 858 total patient safety issues the researchers analyzed, 353 were due to drug interactions and 129 were due to drug duplication. Non-prescription medications accounted for at least one-third of these patient safety issues.

"These results suggest that we need to pay more attention to the potential risks of non-prescription drugs," Farris said. "Seniors already know about drug interactions with their prescription medications, but they're probably less aware about how an over-the-counter medication can interact with their prescription drugs or even duplicate what their prescription drugs are doing."

More and more medications are becoming available in lower-dose, non-prescription forms, Farris noted, which can increase the likelihood of problems for elderly people who are already taking prescription drugs.

"For example, 200-milligram ibuprofen tablets have been available without a prescription for some time," she said. "An elderly person who is already taking another NSAID (non-steroidal anti-inflammatory drug) for arthritis pain or other condition may automatically reach for the ibuprofen when they have a headache, for example, and not realize that these two drugs are doing the same thing. Elderly people are often more prone to developing ulcers from these drugs, so taking more ibuprofen in this case is not good."

The Brown Bag Assessments also showed that some potential safety issues exist because individuals do not take their medications that are known to be preventive, Farris said.

"For example, 88 individuals were recommended to start taking calcium, and 42 individuals were recommended to change the dose of their calcium," she said. Taking calcium can help avoid weakening bones, which may contribute to fractures or falls.

"The importance of the Brown Bag Assessment for Iowa Priority members, in regard to the patient safety, is emphasized in the study. It is imperative that members become more aware that non-prescription medications are considered drugs and can cause the same patient safety issues as their prescription counterparts," said David Fries, executive director of the Iowa Priority Prescription Savings Program. "Iowa Priority is pleased that we can improve a member's quality of life, while identifying savings for our members through the Brown Bag program."

The study was funded by a \$100,000 grant from the Iowa Department of Public Health as part of the IDPH's Patient Safety Program, which is supported by a \$650,000 grant from the Centers for Disease Control and Prevention (CDC). To learn more about the IDPH Patient Safety Program, call (515) 281-8936 or visit their Web site at [www.idph.state.ia.us/dir\\_off/CSHA/patientsafety.html](http://www.idph.state.ia.us/dir_off/CSHA/patientsafety.html).

For more information on the Iowa Priority Prescription Savings Program, call toll free (866) 282-5817 or visit their Web site at [www.iowapriority.org](http://www.iowapriority.org).

**University of Iowa Health Care** describes the partnership between the UI Roy J. and Lucille A. Carver College of Medicine and UI Hospitals and Clinics and the patient care, medical education and research programs and services they provide.

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