

Team Alice, UB's study of medication harm in older adults, receives \$1.95 million national grant



By Laurie Kaiser

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BUFFALO, N.Y. — Adverse reactions to doctor-prescribed medicine is a leading cause of injury and avoidable harm in health care systems around the world — and the elderly are especially susceptible.

Over the last few years, a group of researchers with [Team Alice](#), an initiative of the University at Buffalo, have been looking into ways to protect older adults from medication harm across the health care system. While all medications have side effects, some are especially harmful in older adults whose aging bodies make them much more susceptible.

Team Alice was inspired by the 2009 [untimely death of Alice Brennan](#) from preventable medication harm and health system failure. In 2011 Brennan's daughter, Mary Brennan-Taylor, joined UB's [Department of Family Medicine](#) as an adjunct faculty member and worked with colleagues to found Team Alice, which has since grown into a multi-pronged initiative that includes interdisciplinary research, interprofessional education and advocacy for policy and system change.

Now, the researchers have the opportunity to pursue more expansive and interdisciplinary research in this area, thanks to a four-year, \$1.95 million grant from the Health and Human Services Agency for Healthcare Research and Quality (AHRQ) titled, "Patient-Driven Medication Safety Learning Laboratory in Care Transitions."

Understanding Medication Safety Challenges for Older Adults

“Since Team Alice began, we’ve undertaken various research projects trying to understand patients’ experiences with unsafe medication and how best to arm patients and health care teams with the knowledge and tools to intervene and prevent harm,” said [Ranjit Singh](#), associate professor in the Department of Family Medicine in the [Jacobs School of Medicine and Biomedical Sciences](#) who serves as a co-principal investigator on the project. “Now, our goal is to understand medication safety challenges for older adults as they transition across the health care system. One example is when they are admitted to a hospital and then discharged home or to another facility.”

Additional UB co-principal investigators are [David Jacobs](#), assistant professor of pharmacy practice, and [Huei-Yen "Winnie" Chen](#), assistant professor of industrial and systems engineering.

This new AHRQ-funded project embraces a multidisciplinary approach, fostering collaboration among investigators from the Jacobs School, the [School of Engineering and Applied Sciences](#), the [School of Pharmacy and Pharmaceutical Sciences](#) and the [School of Nursing](#).

Other UB investigators are Jennifer Stoll, research assistant professor of family medicine; Robert Wahler Jr., clinical associate professor of pharmacy practice; Ann Bisantz, dean of undergraduate education for UB and professor of industrial and systems engineering; Sharon Hewner, associate professor of nursing; and Kenneth Joseph, assistant professor of computer sciences and engineering.

Collaborating and Communicating with Local Health Care Teams

The four-year project began on Sept. 1 and will include a collaboration with Erie County Medical Center (ECMC), HEALTHeLINK, and Elder Voices, an older adult advocacy group. The team aims to study how medications are managed by patients and their caregivers or families as well as by health care teams at various points of an older person’s journey through the health care system. They will propose and test new ways to promote the use of safe, age-friendly medications while minimizing potentially harmful ones.

“The solution is more complex than just finding the harmful drugs and discontinuing them,” said Wahler, who co-leads Team Alice with Singh and Brennan-Taylor. The team was kick-started with seed funding from the UB pharmacy school, the UB Center for Successful Aging, and the Office of the Vice President for Research and Economic Development, leading to external grants and to multiple publications and national and international presentations.

“We want to know: What are things that work well? And are we applying those things?” Wahler said. “And what can we do to better identify and get rid of the medications that are harmful?”

The transition of care after a patient leaves the hospital poses problems for many older adults.

A few of the most challenging are identifying medications that should be stopped because they are causing side effects and helping patients to understand the often complex changes in medication and/or dosages that occur in the hospital and at discharge.

“Older adults at this stage have a variety of comorbidities and are complex patients,” Jacobs said. “Whether they are discharged to home or to another health care facility, it’s been, quite frankly, a challenge. Communication gaps and medication problems often occur when the patient returns to his or her primary care doctor.”

To qualify for the grant, the team needed to identify a major patient safety challenge and then offer a systematic process to find a solution based on engineering principles.

“Dr. Chen, with her engineering background, is leading us in that direction,” Singh said. “We’re starting with analyzing the problem and using that information to design interventions and will eventually start testing them.”

Chen explained, “We’ll be talking to health care providers, including doctors, nurses, pharmacists and others, observing their workflow and examining the tools they’re using. We’ll be inserting ourselves into their workplace so we can understand what is going on, what are the challenges and barriers, so we can identify solutions and support tools.”

They also will invite patients to respond to surveys and participate in interviews to glean insights into their experiences and challenges navigating the healthcare system and safely managing their medications. In addition, data from HEALTHeLINK will be used to help identify predictors for hospitalization and rehospitalization and be used to identify signals in clinical data that may indicate risk of medication harm.

The team made a point of focusing on a hospital that serves lower-income individuals.

“Care transitions get much more complicated for individuals who have other societal needs such as transportation issues and food insecurity,” Jacobs said. “Our goal is to have the most impact that we can.”

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