



## New Device Safeguards Against Medication Errors At Home

*Science Daily* — Patients suffering from chronic illness such as diabetes, congestive heart failure, coronary artery disease, and depression, can take six-to-nine different medications a day -- oftentimes more. Skipped doses, misinterpretation or labels, or confusion over what pills to take at what time can be fatal.

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Larry Shusterman, DO, an internal medicine and geriatrics physician and a former pharmacist, has created a way to stop medication mismanagement through the Medi-Sure Medication Dispensing System, an automated device programmed by a pharmacist and used in the patient's home.

Thanks to the services provided by the Rutgers Camden Technology Campus (RCTC Inc.), this innovation is on the fast track to save lives. "This was a device I made out of a desperate attempt to assist patients who ended up requiring emergency room treatment because of medication issues," says Shusterman, a client in the Rutgers-Camden business incubator. "I saw a lot of people who were in nursing homes because of medication issues. The usual methods of medicine reminders, like calendars, or pill boxes, just weren't working."

Patients who use the Medi-Sure system take their medication at the right time and as instructed 95 percent of the time. Research shows that, in general, medication compliance can be as low as 30 percent. The Medi-Sure Dispensing System is about the size of a DVD player and is programmed by a pharmacist, who puts medications in cassettes that hold two weeks work of medicine. The pharmacist also programs what times each dose is to be taken and instructions for each medication, such as whether or not the medicine should be taken with food or water. Then, in the patient's home, the Medi-Sure Dispensing System alerts the patient that it's time to take their medicine through a verbal recording, and will keep alerting the patient until he or she presses the "Get Dose" button. The machine then dispenses the pills into a drawer that, once removed, tells the patient any specific instructions about that medicine. When the drawer is returned, the Medi-Sure Dispensing System records the time that the medicine was taken, and creates a log that can be accessed electronically by a health care provider and any family members who have been given permission to view the log. The log also includes crucial information about the medications, from the dosage to what the pills look like since generic version of a medicine can look completely different than the brand-name version.

Medi-Sure Dispensing Systems currently are being used in New Jersey in a range of settings, including independent living facilities, continuing care residences, group and private homes for people with mental disabilities, and through the **Living Independently for Elders (LIFE)** program at the University of Pennsylvania, which provides patients with additional medical support so they can live at home instead of in a nursing home.

The entire service, which includes hardware, software, reports, and a fee to fill the cassettes, costs about \$4 per day -- less per month than most in-home nursing visits.

Shusterman has been working with RCTC Inc. on the Medi-Sure system, which is a project of his company, Rapid Patient Monitoring. The Rutgers Camden Technology Campus works with entrepreneurs to grow and expand their businesses in Camden by providing them with low-cost office and conference space, technical support services and mentoring for successful startup. Shusterman started working with the Rutgers-Camden business incubator as a "virtual" tenant in September 2006 and plans to move into the RCTC Inc. physical facility. Through the Rutgers program, Shusterman has worked with faculty at the Ernesto Mario School of Pharmacy at Rutgers-New Brunswick, who evaluated the product, and with a leading continuing care retirement community in the Delaware Valley. Representatives of both organizations believe that

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the Medi-Sure system is sound and will be able to keep people in their homes longer than without the system.

"We're able to offer companies like Rapid Patient Monitoring amazing services that benefit companies of all sizes, as well as Rutgers," says Peter Gold, CEO of the Rutgers-Camden Technology Campus and associate provost for economic initiatives at Rutgers-Camden. "For instance, when a company expands and begins looking for venture capital opportunities or funding, it's very valuable for that company to say that they've already had their product or service assessed by a Rutgers faculty member or by people working in the field."

"They've been able to provide infrastructure and assistance to take my company to the next level," says Shusterman of the Rutgers Camden Technology Campus. Aside from physical work space, the RCTC has also provided Shusterman with public relations assistance and mentoring from leaders in the fields of pharmacy and business.

*Note: This story has been adapted from a news release issued by Rutgers, the State University of New Jersey*