Medications are an important part in any patient’s recovery from illness. This is particularly important for severe forms of mental illness. When people with severe mental illness break away from their medication regimen many can have major relapses and become re-hospitalized. But with complicated schedules and multiple medications, it’s sometimes hard to remember to take them or keep track of doses, even without the added cognitive struggles many of these individuals face every day.

Dr. Sean Kidd, the head of the Psychology Service in the Schizophrenia Program at the Centre for Addiction & Mental Health (CAMH), has seen this happen before and wanted to change it. He came to George Brown with a vision: together with Mechanical Engineering students, he developed an automatic pill dispenser with built-in voice reminders and a programmable schedule.

CAMH is Canada’s largest mental health and addiction teaching hospital and research centre, serving an extended roster of both in- and outpatient services. Before approaching George Brown, CAMH had conceptualized most of the key components of the dispenser. Where they needed help was in the product design, and their requirements were clear: CAMH regularly treats severely ill clients and had seen the needs of such a device in daily practice.

“The dispenser needed to do a number of things really well,” says Dr. Kidd. “It needed to accommodate a wide range of medications and a variety of scheduling times that are a part of these folks’ daily lives. It needed to incorporate prompts and aural reminders appropriately. And most of all, it needed to stay affordable and easy to use.”

The design and function of the dispenser offsets the cognitive challenges that schizophrenia clients face every day: forgetting pills, taking them off schedule, or misplacing doses. The device can be programmed by a pharmacist to deliver medication up to four times daily, refilled once a month. But the potential impact of the device is much larger.

“[If we keep this device affordable] you’d have something that is potentially a helpful tool for those struggling with schizophrenia,” says Dr. Kidd. “But beyond that, it has a broad application for anyone with health issues—those with developmental delays, the elderly, or patients with dementia. It has the potential to help a wide range of people.”

Dr. Kidd worked with a team of Mechanical Engineering students to develop the prototype and iron out the dispenser’s parameters. Dr. Kidd, not usually in the business of inventing a new product for market, said the team impressed him with their ability to make something out of nothing: “It was interesting to get a feel for how these products are built from ground up, and to watch the students bring to life something that has been concept and conversation until now.”

The early prototype was finished last year as part of the students’ capstone course—essentially the project served as a “physical thesis” for the Mechanical Engineering students. Dr. Kidd has plans to refine and test the dispenser with a new round of students this year, gradually working up to approaching industry partners who could take it forward to mass production.

For his and countless other patients, that would make the road to recovery a little bit easier.