Non-Confidential Summary

Market Need: Non-adherence to treatment with medication is a pressing and pervasive problem in the treatment of severe mental illness (SMI). Severe mental illness occurs at a rate of approximately 5% of the general Canadian population (Public Health Agency of Canada, 2012). Persons with SMI frequently do not take medications as prescribed (e.g., schizophrenia – 50% non-adherence rate commonly found). Non-adherence to medical treatment is due to a range of factors, including cognitive difficulties in areas of attention and memory, distraction and low energy levels due to psychiatric symptoms, a lack of supports to provide assistance, and reservations about taking some medications due to side effects. Difficulties with medication adherence present a major problem because, for most people with a severe mental illness, taking medication as prescribed is a key predictor of rehospitalization, community functioning, and quality of life. The individual, social, and economic costs of non-adherence are significant.

To this end, we are working to develop a technology that would automatically dispense medications and provide reminders to ameliorate several factors that impede the ability of many persons with SMI managing their illness effectively. By providing an affordable and easy to use tool to assist in this regard, we hope to reduce the impacts of the illness and increase the independence of our clients as they strive to recover from this debilitating form of illness and fully participate in our communities. With minimal competition because of a lack of similar and affordable products, and an extremely large market when one considers other relevant populations such as the elderly, there is excellent promise for such an invention.

Technology Description: The device would be able to: 1) Deliver medication for 31 days without requiring a refill; 2) Deliver medication between 1-4 times per day; 3) Deliver medication by dose for a particular window of time for the patient to be allowed to take the dose but then “close” once that window of time has passed; 4) Hold doses that may be comprised of numerous shapes and sizes of pill, not only for psychiatric medication but also medications for co-morbidities, which occur in a significant number of clients; 5) Allow for labeling of medications; 6) Provide customizable reminder alerts; 7) Dose tracking for adherence data collection; 8) Be very simple to use for clients without distracting components/buttons; 9) Safety – the device must not allow for an accumulation of multiple doses in a single space that can be accessed by the client if doses are missed.

Stage of Development:
• Cad drawings that outline the basic mechanics of the dispenser have been completed
• We have completed both a detailed market analysis and a patent search
  o There is no competition with respect to other devices having the full range of functionality as outlined above and, even allowing for devices that share some similarities, none that approaches affordability for an SMI population
  o While some components of the proposed device might fall under previous patents, there exists no patent covering a substantially similar device

Advantages:
• Affordability – our goal is to develop a device that costs no more than $200/unit. Devices on the market sharing some similarities cost in the $1000 range
• No internet connection required, i.e. simple to use and low operating costs
• Built-in safety mechanisms to prevent overdosing

Intellectual Property:
Patent applications have not been filed

Business Opportunity: The Centre for Addiction and Mental Health is leading the commercialization of this technology and we are seeking a partner to assist in the development of the medication dispenser and putting it on the market.

For more information contact:
Dr. Klara Vichnevetski
Director, Industry Partnerships & Technology Transfer
klara.vichnevetski@camh.ca; 416-595-6056

Centre for Addiction and Mental Health
33 Russell Street, Suite 4039
Toronto, ONT, CDA M5A 2S1
http://www.camh.ca