



TELUS Business Solutions

TELUS partners in a diabetic monitoring pilot

The Toronto Rehabilitation Institute recently launched a 90-day trial that will use a GPS supported monitoring and alerting system to track and monitor diabetes. The study, lead by Professor Sean Doherty from Wilfrid Laurier University in Waterloo and Paul Oh, MD, from the Toronto Rehabilitation Institute will include approximately 130 diabetic patients and will involve monitoring each patient's daily activities over a three-day period.

TELUS is one of many key technology partners that has provided expertise and support to this pilot, along with BlackBerry™, Standard Register's ExpeData®, Life:WIRE™, and Medtronic.

The system uses commonly available GPS-enabled smartphones, secure wireless technologies and a patent-pending server-based processing algorithm to automate the monitoring of a person's daily activities, travel, exercise and exposure. This easy to use, automated system of collecting patient data requires minimal effort from the patient as the GPS-equipped BlackBerry devices monitor activity and transmit patient health information live via the TELUS network.

When combined with physiological monitoring - blood glucose, heart rate and food intake -- the system provides an opportunity to assess the impacts of spatial-temporal daily behaviors on health. Web-based retrospective analysis tools for patients and caregivers have also been developed, including automatically generated activity/exercise/food diaries and interactive maps.

By using the GPS monitoring system and linking it to the physiological data collected, patients will be able to identify the impact of physical activities, travel, and stressful situations on their Blood Glucose levels. This will in turn, help them to identify and understand the triggers that cause their blood glucose levels to fluctuate so that they can stop these triggers before they actually impact their glucose levels. The result is that patients will have improved control over their condition resulting in a reduction of complications and costly visits to doctors and hospitals. The system also includes web-based retrospective analysis that will provide patients and health-care providers' substantive new opportunities to retrospectively customize care, medication regimes, and modify daily activities.

The true innovation behind this system is that patients can now use the GPS -supported monitoring system to provide them with another critical piece of information that helps paint a more robust picture of all the major factors that can trigger fluctuations in a patient's blood glucose levels. Not only will patients have an understanding of the impact of certain foods and activities on their BG levels, but now they will also have a greater understanding of the effects their work, travel, stress and recreation on their health. All of this data and information combined will enhance the patient's ability to monitor their conditions and act on triggers before they impact the individual to help improve their overall health and well being.

Given the low participant burden with this system, combined with the accuracy of Web-based reporting and wide availability of GPS-enabled smartphones, we expect that once the trial is complete there will be an opportunity to make this monitoring and alerting system widely accessible and acceptable for a variety of future healthcare applications.

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