Overview

Researchers at Ohio University have been developing a prototypical case-based reasoning (CBR) system to recognize problems in blood glucose control and to suggest appropriate therapeutic solutions. CBR will initially be used to assist in managing patients with Type I diabetes (DM-1) on insulin pump therapy. The ultimate goal is to provide intelligent decision support for managing patients with all forms of diabetes. The prototype system automatically analyzes data, detecting problems in blood glucose control and suggesting suitable therapeutic adjustments.

The software would initially be used by physicians who manage large numbers of patients with diabetes and have to manually review and interpret large volumes of data. Eventually, the technology could be used in glucose monitoring devices or insulin delivery pumps. This technology could also be utilized by nurses in diabetes download centers to provide more accurate recommendations to patients in non-critical situations and to identify patients in critical situations.

Commercial Application

- Disease management companies
- Manufacturers of insulin pumps, glucose monitors and sensors
- Healthcare systems
- Accountable care organizations
Benefits

- This software automatically analyzes data, detecting problems in blood glucose control and suggesting suitable therapeutic adjustments.
- This software remembers how individual patients respond to various life events so that therapy can be tailored to the needs of each patient.
- This technology may improve glucose control and variability, reducing the frequency and cost of diabetic complications.
- Case-based reasoning enables the system to become smarter with increased use by remembering each patient’s successful responses.

Inventors

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