

1066 — The Diabetes Telemonitoring (DiaTel) Study: Three-Month Results

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Objectives:

The purpose of this study is to compare home telemonitoring-based case management (HT) to a less intense care-coordination (CC) intervention for veterans with diabetes and suboptimal glycemic control.

Methods:

The DiaTel Study is a randomized controlled trial of veterans receiving primary care at the VA Pittsburgh Healthcare System (VAPHS) between June 2004 and December 2005. Veterans prescribed at least one oral hypoglycemic agent or insulin during the previous 12 months were identified by electronic medical record review. Consenting eligible veterans with a hemoglobin A1c (HbA1c) $\geq 7.5\%$ were randomized to either HT (n=65) or CC (n=73). Both groups received baseline diabetes self-management education and monthly telephone calls regarding self-monitoring. Participants assigned to HT used the Viterion 100 TeleHealth Monitor to relay home blood glucose, blood pressure, and weight measurements to a nurse practitioner at the VAPHS. The nurse practitioner assessed self-management, provided education, and used the real-time data in consultation with the study endocrinologist to titrate medications for optimal disease management. CC patients were telephoned monthly by a study nurse, who provided education but made referrals to the primary care provider for treatment. Effectiveness of the interventions was assessed at the three-month clinic visit in terms of changes in HbA1c, blood pressure, weight, cholesterol, and triglycerides.

Results:

Mean HbA1c, blood pressure, weight, cholesterol, and triglyceride measurements were similar in both study arms at baseline ($p > 0.42$ for each). Among the 134 veterans who have been followed for at least three months, significantly larger decreases in HbA1c (1.70% vs. 0.73%; $p < 0.001$) and total cholesterol (27.85 vs. 14.14 mg/dl; $p = 0.01$) were observed in the HT arm relative to CC. Non-significant changes in blood pressure, weight, LDL-cholesterol, and triglycerides favored the HT arm.

Implications:

The HT intervention was associated with significantly greater reductions in HbA1c and total cholesterol at three months.

Impacts:

A home telemonitoring device, in conjunction with nurse practitioner case management, is feasible and improves short-term measures of diabetes care. Further study is required to ascertain the sustainability of the observed improvement.