Diabetes Telehealth Program

Approximately 2,559 patients in the communities served by the 21 rural health clinics in Montana and Wyoming that are part of the Eastern Montana Telemedicine Network have a diagnosis of type 2 diabetes. Diabetes is the fifth leading cause of death among Montanans and the sixth in Wyoming. Between 1999-2006, the prevalence of diabetes in Montana and Wyoming increased 11% and 39%, respectively, compared to the prior 5-year period. This increase in diabetes prevalence combined with a small population base and low per capita income is likely to overwhelm the limited financial resources of rural health care facilities not only in Montana and Wyoming, but in rural areas throughout the US resulting in suboptimal care for rural patients with diabetes.

**Purpose**
The purpose of the Diabetes Telehealth Program is to expand access to important and needed diabetes management services to patients residing in rural areas of Montana and Northern Wyoming. The provision of direct diabetes management services to patients will be provided in collaboration with the Billings Clinic Eastern Montana Telemedicine Network (EMTN). These services include;

1. Patient diabetes education and counseling by certified diabetes educators including registered nurses, registered dietitians and a master’s of social work diabetes life coach;

2. Intensive disease management from both an endocrinologist and a nurse practitioner with advanced diabetes expertise. In addition, advanced diabetes education will be offered to physicians, nurse practitioners, physician assistants and office nurses to help facilitate improved care of patients with diabetes.

The long term goal of the project is to develop a practical and sustainable system of intensive diabetes management that will be effective in helping patients achieve and maintain goals within established treatment guidelines, regardless of geographic location. Disease-specific outcomes goals are based on American Diabetes Association (ADA) guidelines, which are the accepted national standards. Patient and provider satisfaction with the program and technology will be measured for the program’s duration. The specific project objectives are as follows:

- To increase access to diabetes management services through the use of telehealth for patients living in rural areas of Montana and Northern Wyoming.
- To improve diabetes disease-specific outcomes in patients receiving diabetes management services via telehealth.
- To reduce health service utilization associated with receipt of diabetes management services via telehealth.
- To increase distance learning via telehealth by rural providers in the area of diabetes management.
- To improve health care efficiencies by using health informatics in the transfer of health information between urban and rural providers and in scheduling
telehealth appointments.

**Assessment**
Diabetes is the seventh leading cause of death in the United States and is the major cause of disease related disability. Patient treatment and care costs are estimated in excess of $100 billion annually. Diabetes, itself, is considered a major risk factor for vascular complications including retinopathy, nephropathy, and neuropathy, leading to blindness, kidney failure, and non-traumatic lower limb amputations. Diabetes is also associated with two other vascular risk factors, i.e. hypertension and hyperlipidemia, which increase risk for stroke and cardiovascular complication such as heart failure and myocardial infarction which are the leading cause of diabetes-related morbidity and mortality. Moreover, vascular complications are the major source of diabetes-related healthcare costs, accounting for approximately two-thirds of the cost of treatment and decreased quality of life for patients. Thus, intensive control of associated risk factors, i.e., hypertension and hyperlipidemia, in addition to blood glucose control, is important for long-term disease management to minimize vascular complications. The American Diabetes Association yearly publishes rigorous nationally recognized guidelines for diabetes treatment and management, including blood pressure and lipid control.

**Funding**
The U.S. Department of Health and Human Services, Health Resources and Services Administration’s Office for the Advancement of Telehealth awarded Billings Clinic Center for Clinical Translational Research a three year $735,000 grant for the Montana and Wyoming Diabetes Outreach: Expanding Access Through Telehealth program to expand access of diabetes care services to 21 rural communities in Montana and Wyoming.