Attachment E (Exhibit C, #7e)
Wellness Programs

Diabetes Management Program:

Southcoast's certified, diabetes educators (CDE) work to ensure that each patient receives the best care regardless of the provider's hospital affiliation, patient insurance or ability to pay. Special accommodation is made for individuals who are hearing, visually, physically and/or cognitively impaired. Interpreters are provided to participants in their preferred language with translated educational materials. The program focuses on persons age 18 and greater but will consider providing care to individuals less than 18 years of age on a case by case basis. Education is available to persons diagnosed with pre-diabetes, type 1, type 2 diabetes and gestational diabetes in group or individual sessions. All individuals must be referred by a physician and/or mid-level provider.

The diabetes team is a diverse, highly educated and experienced professional group that includes registered nurses, registered dietitians and an exercise physiologist. The team routinely collaborates with endocrinologists, primary care physicians, obstetricians, hospitalists and specialists within the region.

The main components of the diabetes program include:

- *Core Diabetes Education*
- *Medical Nutrition Therapy*
- *Gestational Diabetes Program*
- *Insulin PUMP Assessment & Instruction*
- *Continuous Glucose Monitoring System*

Physicians in the Southcoast Physicians Network have successfully adopted new and innovative models of care such as Shared Medical Appointments for diabetes. Certified diabetes educators are located within primary care practices and have participated in a Joslin Diabetes Center professional education program related to management of the elderly with diabetes. Currently, physicians are piloting a program to integrate specially trained community health workers to improve diabetes outcomes for the most vulnerable patients within their medical practice.

Southcoast's Diabetes Management Program is the most established education program in the region of southeastern Massachusetts and Rhode Island. The program has provided 25 years of service with care to over 15,000 patients during the last 10 years alone. The program has been recognized for service by the American Diabetes Association since 2003. The mission of the Diabetes Management Program is *to help improve the lives of individuals with diabetes through education and support in self-management skills.* Overall, the program exists to provide evidence-based education and management with the goal of preventing and managing diabetes with its associated complications to promote optimal wellness and health for adult citizens living in the community.

Research demonstrates that providing diabetes self-management education to individuals with diabetes not only improves clinical outcomes, but decreases costs, improves cost-effectiveness and results in a positive return on investment (ROI). For example, Boren et al, conducted a literature review in 2008 to evaluate the economic benefits and costs associated with diabetes education. Boren discovered that 18 of 26 papers reported positive financial outcomes. The total mean costs per patient were $918 lower than projection from the initial enrollment for participants with diabetes education. Cost analysis of disease management and diabetes education programs resulted in an ROI of $4.34:1. In a three month education program, improved nutrition knowledge, anthropometric measures and glucose control were estimated to reduce medical costs (hospitalizations) by $94,010.

On average, participants in the Southcoast Diabetes Management Program reduce their hemoglobin A1c by 1% when compared to pre and post enrollment values. Ragucci et al (2005) estimated a savings of $820 for each 1% decrease in A1c.Gilmer et al (1997) reported that medical care charges increased significantly for every 1% increase of A1c above 7%. For example, for a person with an A1c value of 6%, successive 1% increases in A1c resulted in cumulative increased charges of approximately 4%, 10%, 20% and 30%. The increase in charges accelerated as the A1c value increased.

Education sessions are provided in group and individual sessions depending upon the patient's needs. All patients complete a self-assessment that is reviewed by the CDE to develop an individualized education plan. Education is provided in four group sessions or individually and is focused around the AADE Seven Self Care Behaviors:

1. Healthy Eating
2. Being Active
3. Monitoring
4. Taking Medication
5. Problem Solving
6. Reducing Risks
7. Healthy Coping.

Advanced meal planning services are provided by registered dietitians for patients with complex health conditions and co-morbidities, patients require significant weight loss, post gastric by-pass follow-up, and diabetes-related complications.

Gestational diabetes program services are specific to the needs of individuals with gestational diabetes or who are pregnant with type 1 or type 2 diabetes. Both group and individual education sessions are available to participants depending upon the need.

All CDE's are certified insulin pump trainers who assess the patient's commitment and capability for advanced insulin management. Patients complete an individualized education plan regarding insulin pump functions, safety features, set-up and ongoing maintenance. Patients initiating insulin pump therapy are followed by the CDE in collaboration with the ordering physician.

CDE's are also trained to provide professional continuous glucose monitoring system (CGMS) needs, analysis of the data results and collaborate with the physician to make changes in the patient's treatment regimen. In addition, CDE's instruct patients to use their personal CGMS and data to make real-time changes to their insulin pump.

Cardiac Rehabilitation:

In the twelve-month period beginning April 2012, Southcoast's Cardiac Rehab Program provided cardiac rehabilitation services to more than 450 patients diagnosed with cardiovascular disease. Outcomes data demonstrate significant overall improvement in disease management. Patients' cardiovascular endurance increased by an average of 60 percentage points and waist circumference decreased 26 percent upon discharge from program. Patients' scored an average of 90% or better on post-test assessment, demonstrating knowledge of disease self-management in the areas of medication, exercise, nutrition, and stress management. National studies report that utilization of cardiac rehabilitation services result in reduced risk of fatal myocardial infarction (≤25%), and experience a decreased cost of physician office visits and hospitalizations (≤35%).

Pulmonary Rehabilitation:

In the twelve-month period beginning April 2012, Southcoast's Pulmonary Rehab Program provided pulmonary rehabilitation services to more than 75 patients diagnosed with pulmonary disease. Outcomes data demonstrate significant overall improvement in disease management. Patients' endurance for walking markedly increased in 47 percent of participants. Improvement in overall dyspnea (shortness of breath), as reported by the patient, improved in 45 percent of the patients. Patients' scored near 100 percent on post-test assessment, demonstrating knowledge of disease self-management in the areas of medication, exercise, nutrition, and stress management. National studies suggest that utilization of pulmonary rehabilitation result in decreased severity of dyspnea with functional activities, and decreased Emergency Room visits.

The total, combined operating cost to the Southcoast Health System to provide cardiac and pulmonary rehab programs is approximately $1,000,000 per year.

Disease Management Program -- Heart Failure:

The Heart Failure Disease Management Program offers services across the care continuum. Staff members include physician medical directors, nurse practitioners and registered nurses. Services include patient and caregiver education, consultation, intervention and follow-up phone calls to patients. In the twelve-month period beginning August 2012, Heart Failure staff members attended to more than 500 inpatients, conducted more than 700 clinic visits, and completed nearly 3,000 follow-up phone calls to patients. Outcomes data reveal that 98% of patients who receive follow-up phone calls were able to answer 2 out of 3 questions correctly, demonstrating knowledge of disease self-management in the areas of dietary restrictions, medications, and recognizing worsening signs and

symptoms. Southcoast data has shown that patients who participate in heart failure clinics avoid hospitalization for an average 70 days. National studies suggest that disease management programs improve quality-of-life and decrease hospital readmissions. The total cost to the Southcoast Health System to provide this program is approximately $600,000.

References

1. American Association of Diabetes Educators. Diabetes Education Fact Sheet. Accessed September 9, 2013 at http://www.diabeteseducator.org/export/sites/aade/_resources/pdf/research/Diabetes_Education_Fact_Sheet_09-10.pdf
2. Boren, S et al. Costs and Benefits Associated with Diabetes Education: A Review of the Literature. *The Diabetes EDUCATOR* Volume 35, Number 1. January/February 2009. pp. 72-96.
3. Christensen, N et al. Cost Savings and Clinical Effectiveness of an Extension Service Diabetes Program. *Diabetes Spectrum*. Volume 17, Number 3, 2004. pp. 171-175.