

Report To: Sullivan County Tennessee

Application of HealthMapRx

This report is provided to Sullivan County Tennessee as the first full year of data coming out of the application of HelathMapRx for diabetes disease management within their employer sponsored health plan.

CONCEPT

The application of HelathMapRx began in 2006 following consideration by the County Council of the nationally acclaimed, and award winning “Asheville Project.” The opportunity to take part in a regional replication of that model through The American Pharmacists Association (APhA) was made possible through a grant to APhA from Glaxo Smith-Kline. Sullivan County was one of eight employers in the Western North Carolina / East Tennessee region selected for this grant opportunity.

The original “Asheville Project” on which our model is based was developed by the City of Asheville, NC in 1998 to see if employees and their families on that health plan could realize improved health states by patient education, intense frequent interventions by credentialed pharmacists, and more regular care from treating physicians. The model also requires the elimination of co-pays for prescription drugs for diabetes for patients in the program so long as they remain compliant in their attendance at classes, and appointment with their pharmacists and physicians. Early demonstrations of this model by Asheville, and others around the country indicated a strong relationship between “removing barriers” to patient care along these lines and improving clinical outcomes (blood sugar, etc.) and significantly reducing the health plans costs for their care.

We are pleased to report that Sullivan County’s application of the HelathMapRx has demonstrated improved health states for its workers and their families and has reduced the county’s costs of care for these patients in the first full year of data. That data is reviewed below.

Diabetes In General

Medical science now documents that this nation is in the midst of a diabetes epidemic. Whether the disease is Type I (juvenile) or Type II (adult on-set) the number of people suffering from diabetes is growing exponentially. The Washington Post on Friday, January 12, 2008 reported that **“Diabetes-related medical and economic costs in the United States hit \$174 billion in 2007, a 32 percent increase from 2002...”** and reported further that **“...one out of every five health-care dollars in the United States is spent caring for someone with diagnosed diabetes. Last year, diabetes caused more than 284,000 deaths in the United States.”**

The American Diabetes Association estimates that between 6 and 10 % of the national population has diabetes, and that number is growing.

Based upon these facts, Sullivan County management determined that the problem needed aggressive intervention to stem the tide of dollars and lives being lost to this chronic condition.

Sullivan County In Particular

Given the incidence of diabetes is disproportionately higher in the South East Sullivan County expected to fall near the “norm” for employer health plans in terms of numbers of patients and costs associated with the disease.

Sullivan County Government has approximately 725 employees on its health plan and overall covers 1,625 total lives, including dependent family members.

Implementation

Utilizing the services of APhA a local group of pharmacists were identified and went through a credentialing course to give them skills to intervene with patients. All results of pharmacist interventions were to be reported to patient physicians for documentation, and through the APhA’s data system made available to us under the grant we were able to track clinical and financial outcomes for participants in the model.

Population Served

Between April 7, 2007 and September, 2007 a total of 72 patients were documented as enrolled and participating in the program, of which 48 patients at the time of this report have at least one full year of experience / data from the model that is reportable at this time. Some of these patients enrolled at the beginning of the program, and some enrolled during the first year.

It is therefore, expected that the second year of implementation will demonstrate even larger savings to the County.

Clinical Values

Hemoglobin A1c is the medical marker used clinically to determine the relative blood sugar control in patients with diabetes. As opposed to “finger sticks” that all diabetes patients are encouraged to perform, the A1c test is considered a more stable indicator of average blood sugar.

As of September 2007 the average A1c for Sullivan County patients in the program was 7.0. this number is the recommended level set by the American Diabetes Association for diabetic patients in good glycemic control. It is almost certain that the baseline average for this group was higher than this level attained after at least one year in the model, but due to difficulties in documenting the average A1c for each patient in the beginning, this baseline number is not known for all patients.

It is known medically that the lowering of A1c levels for patients reduces the cost of claims for patients, and indeed our experience financially demonstrates this below, thus giving credence to our belief that A1c levels were, in fact much higher at the beginning of the program.

In addition, the following table shows the clinical values attained by patients in the model in Sullivan County in the model, and compares that with the national average for “all patients with diabetes nationwide” in fully insured health programs as measured by NCQA.

Measure	Sullivan County / HelathMapRx	NCQA National Average for diabetes
Hemoglobin A1c Test Annually	100%	88%
Hemoglobin A1c Average	7.0	<9.0 in 42% of patients
Average Blood Pressure	130/80 (*This level is actually quite good)	*No data available for 2007
Average LDL (“bad cholesterol”)	103 (100 is target, and this data compares very favorably with other HealthMapRx sites nationwide including	52% of patients nationwide with diabetes have LDL below 100

	Asheville)	
Current Foot Exam (within last 6 months)	54%	*No data available for 2007
Current Eye Exam	71%	55%
Flu Shot in past year	60%	36%

Financial Data

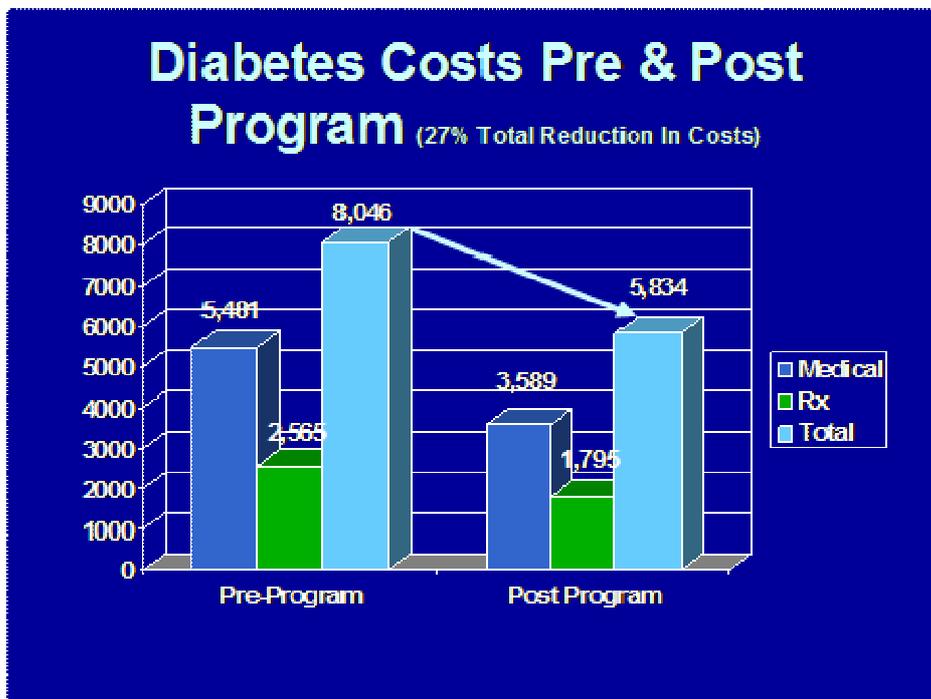
As expected, the application of HelathMapRx has reached the clinical goals for patient care that it is designed to accomplish, and the financial data on claims is extraordinary. We are pleased to report that while the cost of health care is rising at around 12% annually, and our own health plan costs are expected to rise at a slightly slower rate over the next few years we have actually reduced the cost of care for diabetes patients in our model. This achievement is a cornerstone of accomplishment in applications of HealthMapRx and our own results are equal to and better than some replications in communities around the Country.

It should be noted that approximately 80 of annual health care costs in a health plan are the result of about 20% of the people insured in it. This small minority of patients drive the cost of care for everyone, and it is well documented that that small group drives costs ever higher because they typically represent the chronically ill among us; patients with chronic diseases like diabetes that ravage not only our plan experience, but their own quality of life. In short, lower blood sugar and controlling at lower averages is directly equal to the cost of care.

The following table and chart of our financial data on this model summarize our accomplishments very well.

Measure	Pre-Program Average Annual Costs Per Diabetes Patients	Post-Program (1 Year) Average Annual Costs Per Diabetes Patients

Total Hospital & Physician	\$5,401	\$3,589 (*includes pharmacist fees for coaching patients)
Total Rx	\$2,565	\$1,795 (*Note: most applications of this model see an increase in this cost over the first year. Ours did not.)
Total Average Costs For Care For Diabetes Patients In Sullivan County Program	\$8,046	\$5,843 (This represents a reduction in the total cost of care for patients in the program in one year of 27.5%)



Summary

It is the opinion of staff that the application of the HelathMapRx model for diabetes care has equaled and exceeded expectations for it. Sullivan County Government has joined the small but growing list of employers nationwide who have demonstrated their ability to improve benefits for their covered worker and family lives; improve the health states of patients with diabetes; and reduce the taxpayer burden for the costs of caring for chronically ill patients on its health plan.