

SouthEast Texas Medical Associates, LLP

Data Warehouse and IBM Cognos Business Intelligence Solution

Business Overview

SouthEast Texas Medical Associates, LLP (SETMA) is a private-practice, multispecialty, medium size group located in Beaumont, Texas with 38 providers and over 250 employees. SETMA has three clinical locations which are connected with a secure electronic medical record (EMR) system to store and access SETMA patients' records. SETMA operates a clinical laboratory, mobile x-ray service, physical therapy department, as well as a number of special clinics. SETMA's growing provider base includes Pediatrics, Cardiology, Neurology, Endocrinology, Ophthalmology, Internal Medicine, Nurse Practitioners and Family Practice.

Business Challenge

One of SETMA's stated objectives is to be a Patient-Centered Medical Home. This involves having the ability to examine patient-care data to change provider and patient behavior, to change procedures and processes in the practice and to provide patients with information about, and strategies for improving or preserving their health.

It became obvious that to meet this objective, the analysis of patient-encounter data is not trivial due to the magnitude of the patient database, over 300 reporting measures required to help meet the objective and the complexity of the information required. A single report could take more than 30 hours to execute. SETMA engaged LPA to assist them with implementing a data warehouse and business intelligence solution using IBM Cognos technology to enable the complex reporting requirements. This project had the following goals:

- Enable providers to know how they are performing by auditing at the individual level.
- Empower the providers to know if evidenced-based standards of care are being employed. If they are and the patient is still not to goal, this will enable the provider to address hindrances to the patient getting to goal.
- Change provider behavior by comparing provider performance and publishing that performance internally by patient name and externally as an aggregate practice performance. This will motivate providers to change.
- Change patient behavior by expanding the use of patient data through leveraging Cognos reporting so as to focus the patient to take ownership of his health before it is too late.

- Examine patterns of care and outcomes both retrospectively and then prospectively through statistical methodology and epidemiologic-principles.
- Achieve the highest level of recognition by NCQA as a Patient-Centered Medical Home.

Solution

LPA designed and developed an enterprise data warehouse that serves as a stable, reliable foundation to enable the reporting, dashboarding, and analytical capabilities of the requirements using IBM Cognos 8 Business Intelligence technology. The data is stored in a star-schema architecture which is optimized for use by the business intelligence layer. The ETL process corrects known data integrity issues, implements business rules, and pre-calculates formulas to maximize report performance by using fact-based, aggregated reporting tables. A complete business layer was created in the framework model that includes global definitions, additional calculations and filters to support standardized enterprise reporting.

The data then was easily utilized to develop standardized, pixel-perfect reports to address the functional areas of HEDIS, NQF, PQRI, Preventative Measures, Diabetes Consortium Data Set, and NCQA. These standard reports are batched and delivered via email to designated individuals, and are available on-demand interactively via the Cognos portal.

Dashboards were created using Cognos to allow providers to contrast their performance on quality measures for diabetes, hyperlipidemia and hypertension with the entire clinic, multiple clinic locations, individual or selected groups of providers.

Results

Cognos reports allow SETMA providers the ability to see their individual performance and the clinic's performance in over 300 measures defined by HEDIS, NQF, PQRI, Preventative Measures, Diabetes Consortium Data Set, and many additional measures created and defined by SETMA. Additional reports are available for each of the standards set by NCQA, and SETMA has applied for NCQA recognition as a Patient-Centered Medical Home.

Using dashboards, SETMA is able to display outcomes which show seasonal patterns of care and trending comparing one provider with another. These disease specific dashboards allow the physicians to quickly analyze patients who are treated to goal with patients who are not. This analysis allows the provider to recognize differences between the two groups and to see if those differences provide opportunities for improving the care of those who are not to goal.

Cognos reporting on hospital discharges allows SETMA to analyze patient centric measures in hospital admissions for reducing preventable re-admissions to the hospital.

SETMA continues to invest in their data warehouse and Cognos BI solution with the addition of new encounter and patient centric measures. Existing data warehouse elements are leveraged for repeatability and rapid development of reporting and analytical solutions for public reporting, industry standard comparisons, and SETMA provider use.