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COGNOS and SETMA
Why and What is our goal?
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November 17, 2009

On November 12, 2009, SETMA's partners met with representatives of LPA (www.lpa.com), a consulting firm hired by SETMA to customize IBM's Business Intelligence software, COGNOS, for use by SETMA. The partners' enthusiasm for the project was matched by the excitement which LPA has for and the commitment they have to this project. Now that we are a month away from the finalization of the first phrase of this project, I would like to summarize our goals for the investment which is being made.

COGNOS: What is it?

First, let me explain what COGNOS does. After eleven years of collecting data in NextGen, and after expanding our data fields into:

- Multiple disease management tools, such as Diabetes, Hypertension, Lipids, CHF, etc.
- Suites of specialized treatment tools such as Nursing Home, Ophthalmology, Rheumatology, etc.
- Hospital-based treatment tools such a Discharge summaries, Daily Progress notes, Admission orders, etc.
- Preventive-medicine treatment tools such as Diabetes Prevention, Hypertension Prevention, LESS Imitative, Exercise Prescription, etc.
- Quality measures tracking and auditing tools (see below)
- Many other functionalities

SETMA has a large database. Because SETMA's knowledge base is totally customized, we are not able to use the excellent tools which NextGen is building for users who are on their standard knowledge base. Thus, SETMA initiated the COGNOS project.

Data Mart

Because the goals, which will be listed below, require us to do daily audits on almost 300 practice/provider activities and because of the size of SETMA's NextGen database, we had to solve several problems. These were:

- Pulling the daily queries from SETMA's master database could take over 30 hours. If our goal is to report on daily activity and if it takes 30 hours to do, you can see the problem.
- The complexity of these queries and the amount of computer power required – even with the size of SETMA's server farm, server speed and network configuration – the efficiency and speed of our providers' and staff's use of NextGen would be

significantly compromised, perhaps even slowing the system down to the point of frustration.

The solution to these two problems is a "data mart." Essentially, this means that the data points which will be queried in order to produce the daily audits will be extracted once. Those data points will then be stored in the data mart and all auditing will be done from this data repository rather than from our NextGen master-database. Thus, the audits rather than taking hours or even days, will take seconds or minutes and the speed of our use of NextGen will not be degraded.

The creation of the "data mart" is complicated by the quality of the database which is being searched. In the process of creating the data mart, the data being pulled from NextGen is "scrubbed and cleaned up" so that it is reliable and the audits can be validated. While it may seem simple, getting accurate, precise data from any electronic system is not simple.

No matter how good your system is, and NextGen is the best, there are complications when you are trying to extract data for analysis. All of these complexities and complications are resolved in the creation of the data mart. Thus when data is pulled from NextGen, via the data mart created in COGNOS, we can be confident that the data is accurate and reproducible.

Remember, we are going to be reporting these audits to healthcare providers and executives. This data will reflect the quality of work which is being done in SETMA. What we don't need is to have to spend all of our time defending the validity of the data we are reporting. We need to know that when we report data whether the results are average, good or excellent, everyone can be confident that the data accurately reflects what has been done.

Audits

Once the data mart is built, a series of structured, healthcare-provider-performance audits are being built. This will provide SETMA the opportunity to report to providers, to staff and ultimately to the public the quality of care which patients are receiving at SETMA. This quality reporting will reflect performance on evidence-based, national standards of care in many areas of healthcare delivery. The quality measures which we will be tracking and reporting are published by:

- **HEDIS** (Healthcare Effectiveness Data and Information Set) – published by NCQA (National Committee on Quality Assurance) measures the quality of preventive care, acute care and the care of chronic conditions. Over 90% of health insurance plans use HEDIS data to demonstrate to employers and other purchasers of healthcare services that their members are receiving quality care. Annually, HEDIS audits are done on medical practices.

  Few, if any, medical practices other than SETMA measure and report their own HEDIS performance data. SETMA started doing so in 2009. SETMA gives providers the opportunity to evaluate their own HEDIS performance every day on

every patient. In January, 2010, SETMA's patients will begin receiving a report of the provider's fulfillment of HEDIS measures at each of their visits to SETMA. Also, that data will be reporting as an aggregate of all of SETMA's performance on our website.

- **NQF** (National Quality Forum) – in 1999, this agency was created by the Federal Government in collaboration with private organizations to promote quality improvement in healthcare delivery by: 1) Setting national priorities and goals for performance improvement 2) Endorsing national consensus standards for measuring and publicly reporting on performance; 3) Promoting the attainment of national goals through education and outreach programs.

    The quality measures endorsed by the NQF provide a national standard of care. To receive NCQA recognition as a patient-centered medical home, a practice must report internally and externally on ten NQF-endorsed quality measures. For 2009, SETMA is report on thirty-two NQF measures and is adding another thirty for 2010. NQA has identified over 130 quality measures which apply to ambulatory (outpatient) primary care. Presently, SETMA will report on half of these, eventually, SETMA will report on all of them.

- **PQRI** (Physician Quality Reporting Initiative) – this is a CMS (Centers for Medicare and Medicaid Services) program which rewards practices which report on quality measurements sets recognized by CMS. In order to achieve PQRI reimbursement, a practice must report on two measures. For 2009, SETMA has reported on two measure sets (Diabetes and Preventive Care) which have a total of 28 individual measures in them. For 2010, SETMA is expanding its PQRI report to include almost sixty quality measures.

- **NCQA** (National Committee Quality Assurance) – NCQA not only establishes HEDIS measures but also is the principal agency for recognizing medical practices as Patient-Centered Medical Home. Since February, 2009, SETMA has bene preparing to apply for that recognition. NCQA has published 9 Standards, 30 Elements and 183 Data Points for that recognition at one of three levels: Tier 1, 2, 3. SETMA's goal is to achieve Tier 3 recognition. As will be seen below, one of the purposes of SETMA's COGNOS project is to facilitate the practice analysis for achieving this recognition.

- **PCPI (Physician Consortium for Performance Improvement)** – PCPI is a collaborative effort between the AMA, CMS, Institute of Medicine and the medical and surgical specialty societies. PCPI publishes quality measurement sets for quality improvement which enable physicians to measure and improve their own performance. SETMA has implemented and is actively using the PCIP data sets for

    - Diabetes
    - CHF
    - Hypertension
    - Chronic Stable Angina

- Care Transitions
- Others

The COGOS Project will also provide the following:

1. Daily, all providers and nurses will get an audit of the quality measures which have not been met on the specific patients they will be seeing that day.
2. Daily, all provider and nurses will get the result of their performance on the patients they saw the previous day.
3. Those who have a COGNOS license which allows such will be able to design and execute specialized reports.
4. It will be possible to do statistical analysis for epidemiological purposes on each healthcare provider's performance.
5. Analyze SETMA's performance on all 9 Standards, 30 Elements and 183 Data Points for NCQA recognition as a patient centered Medical Home.
6. It will be possible to do effective population management for well-established preventive, screening and surveillance measures.
7. It will be possible to do statistical analysis on patterns of care given by providers in SETMA and to determine if best practices are being followed.
8. With a COGNOS "digital dashboard," it will be possible for providers with a level of license which allows such to do their own data analysis.

Why?

What is the purpose of the COGNOS project? Why are we doing this? The cost of COGNOS, the licenses and the customization of the data mart and audits is not inconsequential. Why would SETMA's partners do such a thing?

- First, we want to know what we are doing. Without auditing our performance, we will never know how we are performing. The COGNOS Project will allow us to objectify our performance. We will no longer "think" we are doing well; we will know if we are doing well.
- Second, we want to improve what we are doing. Evidenced-based medicine with the treatment targets established by science can tells us where we want to be. If we know where we are and if we know where we want to go, we can design and way to get there.
- Third, when we know that a patient is not treated to target or to goal, we want to know why. COGNOS will allow us to know if evidenced-based standards of care are being employed. If they are, and if the patient is still not to goal, it will allow us to address hindrances and/or obstacles to the patient getting to goal.
- Fourth, we want to change provider behavior. The medical literature is replete with evidence of "treatment inertia," the nature inclination of people, even well-

intentioned people, not to change things. Change requires that there be more pain or discomfort in staying the same as is required to make a change. SETMA believes that comparing provider performance and publishing that performance internally by patient name and externally as an aggregate practice performance will motivate providers to change.

- Fifth, we want to change patient behavior. Like the frog dropped into a kettle of cool water which is then placed on the fire, changes in a patient's health are often so subtle and so slow that devastation overtakes them before they realize they are sick. SETMA has used and intends to expand the use of patient data, through the COGNOS Project, to create discomfort in patients to make them "jump out of the heating kettle" of deteriorating health before it is too late.

- Sixth, we want to examine through statistical methodology and epidemiologic-principles patterns of care and outcomes. We want to be able to ask questions and analyze our data to get answers both retrospectively and then prospectively to those questions.

- Seventh, we want to achieve the highest level of recognition by NCQA as a Patient-Centered Medical Home.

This is a brief summary of SETMA's COGNOS Project. This project will grow over time. We believe that it will be one of the center pieces of SETMA's efforts at transforming healthcare delivery. We believe that it will provide a stimulus for the generative, creative power which is at the heart of healthcare transformation.