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Patient-centered Medical Home SETMA's COGNOX Project

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The Your Life Your Health articles for February 19 to May 21st of this year examined the concept of a Patient-Centered Medical Home including what it expects of a medical practice and what it provides to patients. Those articles can be found on SETMA's website www.jameslhollymd.com under the heading of your Life Your Health, by clicking on the icon entitled "Medical Home."

Perhaps the most important aspect of being recognized as a Patient-Centered Medical Home is the ability to examine patient-care data in order:

- 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.

The organization and analysis of raw data obtained in the care of patients can produce information on the basis of which decisions, treatment plans, and plans of care can be provided to patients. These materials can help patients take charge of their own care and become actively involved in the management of their own health. In the coming three weeks, we will look at this process for three major conditions which are treated in SETMA's Patient-Centered Medical Home: Diabetes, Hypertension and Lipid Abnormalities.

The analysis of patient-encounter data may seem simple until it is realized that SETMA's patients' electronic data base is huge and that it could take 36-hours to run the reports required for the above project. When it is realized that SETMA wishes to produce those reports daily, the potential problem is realized. If you want to report on something every 24 hours but it takes 36 hours to produce the reports, you can see that it is an impossible task.

COGNOS Project, Why?

This is one of the principle reasons for the COGNOS Project. By the time this article is published SETMA will be completing the fourth week of this project and expects to complete the project in seven more weeks. Here are some facts about the project.

COGNOS is an IBM computer program described as being for "Business Intelligence and Financial Performance Management." It is a data-mining software program which is elaborate, robust, complex and excellent. The use of COGNOS in healthcare is not new but it is not common place. In response to SETMA's desire and need to have real-time reporting capacity for quality measurement, and practice and provider performance, our Chief Information Officer, Richmond Holly, chose COGNOS. After one false start with another company, he chose LPS (www.lpa.com) to consult and collaborate with SETMA on this project. While SETMA's entire

IT team is involved in this project, Jon Owens is SETMA's principal liaison with LPA and the leader of this project for SETMA.

Changing Provider Behavior with Real-time Performance Reporting

There are multiple motivations for this project. The first is to change provider and patient behavior. Typically healthcare providers only receive delayed, retrospective reviews of their performance, which does not change behavior significantly, in our judgment. In the Old Testament, there is a verse which says that "because punishment against an evil deed is delayed, the hearts of men are set upon doing evil." The principle is that without immediacy between the consequences and/or evaluation of an action and the action itself, the potential for the consequence to effect positive change is diminished or eliminated. While auditing provider performance is never for punitive reasons, the principle is the same. If the reporting of the results is significantly removed in time from the events being audited, it will have little impact upon provider behavior.

In his book, *The Fifth Discipline*, Peter Senge of MIT used the classic metaphor of the Frog in Boiling Water to address the same issue from a different perspective. He explains, "If you put a frog into cool water; he will swim around. If you begin to heat that water, the change is so gradual that the frog will not recognize the danger until it is too late for the frog to escape." The same is true of patients and healthcare providers. Because the changes in patient health are generally very slow and without immediate consequences (symptoms), both provider and patient can become complacent.

The medical literature addresses this complacency with the concept of "treatment inertia," the tendency on the part of healthcare providers to do nothing, even when something should have been done. Most of the research on "treatment inertia" has been done in the medical education arena where it is expected that "best practices" will always be present. There is no intent in this project of punishment, or of boiling anyone in hot water, but the intent is to find a way to change provider behavior and to overcome "treatment inertia." SETMA believes, as is also addressed by Senge, that the only effect way to change patient and provider conduct in the face of chronic conditions which cause no short-term discomfort but which have long-term devastating consequences, is to create discomfort in both in order to overcome "treatment inertia" and/or current apathy toward inevitable bad outcomes.

Aggregated-Provider-Performance Data for the Practice

Thus, we come to SETMA's COGNOS project. Through our electronic patient record (EMR), SETMA tracks multiple quality-measures sets from numerous sources such as HEDIS, NQF, PQRI, Physician Consortium and NCQA. These measures sets are available in SETMA's EMR in a "real time" format for providers to be able to review at the time of a patient encounter. Thus, each provider can review his/her own performance on each of these measures in the examination room. This ability has already resulted in improvement in provider performance.

However, we believe there is additional benefit to be gained from aggregated-provider-performance data which compares all providers in SETMA to other SETMA providers and

comparing both against national standards of care. And, we believe that the reporting of that comparison immediately will provide great benefit to our patients. SETMA intends to begin reporting in January the results of our care of diabetes, hypertension and lipid management, as well as over 100 additional elements of quality measures related to preventive health, chronic health problems and risk stratification. We will report this on our website so that patients can not only see how they are doing – from the reports we give them during their clinic visits – but how all of our patients as a group are doing. In healthcare policy this is called “population management” and addresses the structure and processes of healthcare delivery which increases the probability of consistent and predicable quality care and outcomes in healthcare.

It is SETMA’s opinion that when providers received information from hospitals, health plans or other sources about their performance from a year or more ago, that they review it and immediately forget it. Even when the data shows that their performance is substandard, its remoteness diminishes its impact. In addition, “benchmarks” – telling providers how their performance compares with an amorphous, unknown group does not have the impact as will the displaying of their performance along side their own colleagues, and particularly when it is done by name. SETMA also believes that the creation of a true and dynamic team will be encouraged by the public reporting of that performance data without the providers’ names.

Unusual Requirements of NCQA Patient-Centered Medical Home

Many of the requirements for recognition by NCQA as a Patient-Centered Medical Home are procedures and/or processes which are a traditional part of the clinical practice of medicine. Some are not. It is these latter functions which are most challenging and for which our COGNOS project will be most helpful. Via the COGNOS function, it is SETMA’s intent to report to all providers:

- A. The day before a patient is to be seen – A report will be sent to each provider of what the patient needs during their visit the next day. This will include a list of what the patient needs in order for the patient’s care to meet all quality measures which SETMA is tracking. This report will facilitate the ease of a provider and a provider’s support staff making certain that every patient receives every element of care which they need and deserve. We expect to be able to do this by January, 2010.
- B. The morning after the patient is seen -- The result of the providers’ performances the previous day will be reported without the identity of the patient and that provider’s performance will be measured against all SETMA providers. We expect to be able to do this by January, 2010. We believe that the immediacy of the report – less than 24 hours after the events – and the comparing of providers with one another will create the discomfort needed to effect change in providers’ performance.
- C. Monthly, without patient identification information or provider identification SETMA wide performance will be reported on our website www.jameslhollymd.com --SETMA believes that this will enable our patients to be confident that they are receiving excellent care from SETMA and it will be further motivation for our providers to raise the standard of SETMA’s care. We expect to be able to start posting these results by February, 2010.

- D. Quarterly SETMA will report de-identified (all patient identification removed) results to agencies to whom SETMA is accountable for quality measures -- As will be seen below, this is an NCQA requirement

A “Data Mart”

The second motivation for SETMA’s COGNOS Project is that the aggregation of and the reporting on the amount of data tracked by SETMA is a major, daily undertaking and would be time and personnel intensive if it were not automated. Additionally, the size of the reports which SETMA envisions and the database from which these reports are being mined are such that without a data-mining tool, it could take longer than 24 hours to run the reports. In addition, the running of the reports could slow our system to the point that the usefulness of the EMR in patient encounters could be adversely affected. Through COGNOS, we are creating a “data mart” which will eliminate this problem. Simply put, a “data mart” is a repository for the data points required for the completion of the above described tracking. While SETMA’s EMR has hundreds of thousands if not millions of data points, only about 200 are needed to evaluate the outcomes of our care. The “data mart” will create a secure folder for these data points and all queries will be pulled from the “data mart.” These reports will take seconds rather than hours.

NCQA Recognition as a Patient-Centered Medical Home

The third motivation for SETMA’s COGNOS Project is that SETMA is preparing to apply for NCQA (National Committee for Quality Assurance) recognition as a Patient-Centered Medical Home. NCQA has published 9 Standards with 30 Elements and 189 Data Points for recognition as a Patient-Centered Medical Home. If you meet 25% of these Data-Points you will be a Tier I; if you meet 50%, you will be a Tier II and if you meet 75%, you will be a Tier III. SETMA’s goal is to be a Tier III medical home and it is also our goal to meet all 189 Data Points.

Some of the 189 Data Points are reflective of actions which have traditionally been a part of medical practice and are easily met. Others are part of the electronic patient record and are easily met by any medical practice using a robust EMR. Others however, are not things which have traditionally been done. They are challenging and require significant changes to procedures and processes in a well-run medical practice. SETMA’s COGNOS Project is intended to help us meet those unique new standards of care. Some of them are:

- A. Pre-visit planning – Evaluating the patient’s needs before they are seen and making certain everything is available in order to meet those needs. This is a complex problem in a multi-specialty group but the COGNOS functions will make this simple.
- B. Post-visit review – Follow-up of patients has always been a part of patient care but the following up of every patient to see that they obtained their medications, followed through with their referrals, etc., is complex. COGNOS will make it possible for us to do this.
- C. Reporting Performance on 10 National Quality Forum (NQA) endorsed quality measures -- SETMA has chosen to report on 32 NQA measures for 2009 and is adding another 20 NQA measures for 2010. We will report our performance on these to several external

organizations as well as to the public. Of course, all patient identification information will be eliminated.

- D. A written plan-of-care and treatment-plan which is personalized for each patient -- Due to SETMA's EMR, SETMA's disease management tools and SETMA's reports, we are already accomplishing this for diabetes, hypertension and the treatment of cholesterol and triglycerides. This was one of the most daunting of tasks but with the motivation of NCQA's requirements, SETMA has done it and found it to be an extremely valuable tool for our patients.
- E. Calling Patients After a Visit – This NCQA requirement puzzled us for a while. The value was obvious but how to do it. In order to call ALL Patients seen at SETMA each day, it would require at least 8 full-time RNs, at a cost of over \$600,000 a year. In addition, some patients would not benefit from such a call. Thus, SETMA has established a policy of calling all patients discharged from the hospital and/or emergency room and of calling clinic-visit patients whom the provider indicates would benefit from a call with the provider dictating when the call would be made and why the call would be made. Since we began this program over a month ago, this has already begun yielding benefit to our patients and providers.
- F. Non-provider involvement in the patient's care – As aspects of health care become more and more precise, it is possible for someone without a medical degree to perform that function effectively and accurately. One of those areas is preventive healthcare. It does not take a physician or nurse practitioner to determine if a patient has or has not had a flu shot, is or is not allergic to eggs and to initiate the giving of a flu shot. The improving of the quality of care will be partially achieved by the involvement of many different people, at many different levels of care in the patient's healthcare experience. SETMA's COGNOS Project's pre-visit planning will allow nurses, within the scope of their licenses and skills, to perform unsupervised points of care.
- G. There are many others elements of NCQA standards which our COGNOS Project will facilitate achieving; these illustrate the point.

COGNOS will allow SETMA to continue to move healthcare delivery forward and to improve the care all of our patients receive. Welcome to the future of medicine; welcome to SETMA.