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**Improving Population Healthcare and Safety Through
Real-time Data access, Auditing and Reporting**

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2009 National Priorities Partnership:
Population Health; Safety; Care Coordination

Technology Used:

Electronic Health Record (EHR)

Meaningful Use Goals:

Improve Population Health and Care Coordination

1 Title: Improving population healthcare through real-time data access, auditing and reporting

2 Background knowledge

Beaumont-based Southeast Texas Medical Associates (SETMA) recognized early on that robust —data management— rather than simple —document management— would allow it to initiate effective quality improvement programs. SETMA was founded in 1995 by two visionary physicians who believed in continuum-wide healthcare integration. By 1998, SETMA had purchased the NextGen Healthcare Information Systems EHR with an overarching mission to preserve the health and quality of life for all patients – and do so cost-effectively. It is now a multi-specialty clinic of almost 300 employees and 32 providers who annually record more than 120,000 clinic, 20,000 hospital, 9,000 nursing home, and 14,000 physical therapy visits. The EHR securely connects three clinics, two hospitals, emergency departments, 22 nursing homes, provider residences, and six non-clinical locations (e.g., business office, home health, hospice, physical therapy). It maintains a reference laboratory and mobile x-ray services.

3 Local problem

One of the chief problems confronting all healthcare organizations is something fundamental to human nature: discomfort in the face of change. For SETMA providers, this was compounded by the fact that they typically received retrospective performance reviews. True to what healthcare literature calls —treatment inertia, SETMA found that delayed audit results seldom had much impact on provider behavior. The practice realized that overcoming treatment inertia, changing provider and patient behavior, and improving healthcare at the population level could only be accomplished if providers had immediate access to relevant patient data. The group had long used an EHR, but until 2009 did not have the tools or processes in place to allow real-time performance reporting and auditing to spur care-enhancing behavior.

4 Intended improvement

In February 2009, SETMA co-founder Dr. James Holly attended a workshop about a burgeoning National Committee for Quality Assurance (NCQA) recognition program called the Patient-Centered Medical Home (PCMH). He left the meeting believing that PCMH recognition was a way to demonstrate commitment to quality improvement—to both patients and payers alike. He also understood that it would require scrutiny of patient-care data in order to: change provider and patient behavior; change practice procedures and processes; and improve patient health through a focus on preventive care.

These efforts dovetailed smoothly with SETMA’s long-standing dedication to maintaining patient health and quality of life, which incorporates several National Priorities Partnership goals (e.g., patient and family engagement in care; population health focused on wellness and prevention; and patient-centered care coordination). By achieving PCMH recognition at its highest level, SETMA saw opportunity to:

- Incorporate national quality-of-care standards into both the EHR and workflow

- Use tools at the point of service to enable evidence-based medical care

- Measure provider performance in real time

- Examine patterns of care and outcomes using statistical methodologies

To reach PCMH recognition, a practice must provide patient communication with a personal physician who accepts full, primary responsibility for each patient’s care. It includes efforts such as answering health-related inquires at any time; providing telephone access with same-day response; and e-mail contact through secure web portals. Continuity of care in the electronic age also involves making each patient’s record available at every point of care. The health information exchange (HIE) SETMA has

launched will provide accessibility to the patient chart by hospitals, emergency rooms, specialists and primary care providers. In addition, SETMA's secure patient web portal lets patients maintain and periodically review their own personal health record. This places patients at the center of their healthcare decision-making processes, which encapsulates the PCMH ideal.

5 Planning the intervention

In 2009, SETMA performed a comprehensive analysis of its operations. While the group had focused on disease management during its EHR implementation, it concluded that future plans to improve patient-centered care—and apply for NCQA PCMH recognition—rested squarely on its ability to audit provider performance and patient information in real time against national quality-of-care standards.

The goal was to move from meeting national standards solely on a patient-by-patient basis to measuring treatment across broad patient populations. Toward this end, the cornerstones of the program SETMA developed—and now calls its Model of Care – focused on data tracking, auditing, analyzing, reporting, and improvement capabilities:

Tracking—each provider tracks performance of preventive, screening, and quality standards for acute and chronic conditions while in the exam room with each patient. Tracking occurs simultaneously with the provision of care by members of the entire healthcare team (e.g., physicians, nurses, clerks).

Auditing—over a given patient population, audits examine care patterns by provider, practice, or the entire clinic—with an eye toward identifying ways to improve care processes. This is performed using IBM COGNOS business intelligence (BI) functionalities and, SETMA believes, is the essential piece missing from most healthcare auditing programs.

Analyzing—performance audits are analyzed statistically to measure improvement by practice, clinic or provider. This is how SETMA understands the *meaning* behind its processes and outcomes measures. Analysis focuses on any care discriminators—such as ethnic, age, gender, payer or treatment frequency disparities—to identify leverage points for care improvement.

Reporting—SETMA publicly reports hundreds of quality measures on its website per provider. The goal is to motivate improved performance by providers and increased confidence among patients. Patients also are provided with documented plans of care to help empower their own healthcare involvement. Reporting functions all are designed to overcome both provider and patient —treatment inertia.¶

Improving—the clinic uses its analysis tools to identify appropriate quality initiatives to pursue. One current initiative, for instance, involves the elimination of all ethnic diversities of care for diabetes, hypertension and dyslipidemia.

Using real-time data and benchmarking tools, the SETMA Model of Care was designed to provide a framework for analyzing, making informed decisions, and continuously improving the quality of care. Even after successfully achieved NCQA and Accreditation Association for Ambulatory Health Care (AAAHC) medical home status, SETMA continues using innovative technologies and processes to more completely transform its Model of Care into a robust PCMH.

6 HIT Dimensions Utilized

When SETMA began evaluating business intelligence and reporting tools, it had over a dozen years of patient information in its existing electronic database. Generating the reports required for provider auditing typically took days, yet SETMA wanted to generate fresh reports daily. So the group's Chief Information Officer searched for business intelligence (BI) infrastructure that would work in tandem with its NextGen EHR and practice management systems to allow reporting, analysis, dash boarding and

scorecards. He selected the IBM COGNOS BI data-mining software – which is based on a single, service-oriented architecture (SOA) – to help gain the desired range of reporting and analysis capabilities.

National quality care standards have been incorporated into SETMA’s EHR, and from there into physician workflow. SETMA harnesses the discrete data capture capabilities of its EHR to measure—on a daily basis—each individual physician’s performance against every applicable quality measure available. Providers have the capacity to perform real-time evaluation of their performance against measures from HEDIS, NQF, NCQA, PCPI, PQRS and AQA.

SETMA’s Model of Care uses HIT for two very distinct purposes: data tracking and data auditing. Tracking is performed one patient at a time, at the point of care, through quality care standards embedded within the workflow of the EHR. By contrast, auditing looks at broad groups of patients. Using COGNOS BI, the practice puts its treatment data through statistical analysis to evaluate the validity of its treatment methods. This allows SETMA to identify disparities in care, gaps in care, potential staff training/education needs, and opportunities for care improvement.

It remained to be determined how this was going to affect real change in provider performance and to overcome –clinical inertia,|| the tendency upon the part of any provider not to change the treatment strategy even when the patient was either not at or not progressing to goal. In keeping with the patient centered nature of healthcare in the health home environment, it was determined that this barrier could be met by removing another barrier which is the patient’s lack of information on the basis of which to measure the quality of care they are receiving. It was determined that public reporting of provider performance on over 200 quality metrics would challenge the providers to improve and would allow patients to judge the quality of care they receive. Therefore, SETMA began in 2009 to report publicly provider performance by provider name.

There was resistance to this initially but this barrier was overcome by the resolution to do this with the determination to improve performance in any areas of deficiency. The results have been remarkable good for patient and provider.

7 Outcomes (a) Nature of setting and improvement intervention

SETMA has worked for 15 years to develop systems, processes and goals that enable state-of-the-art care for patients and the community. The 19 months spent on the journey to PCMH recognition—from February 2009 until September 2010—underscored the importance of engaging the entire practice in this transformative process. Even with a few providers leading the way, everyone had to set the foundation for creating and sustaining a PCMH. The practice has learned that flexibility and willingness to change must be demonstrated by all in order to fulfill PCMH demands—and its promises. Five of the numerous innovations now incorporated into the SETMA Model of Care:

1. **Strong transitional continuity of care.** All patients are called the day after a hospital discharge to address a list of continuity-of-care concerns. Rather than the typical two-minute —follow-up|| call, SETMA staff is allotted 15-30 minutes for in-depth discussion.
2. **Effective care coordination.** SETMA has established a Department of Care Coordination headed by a Director of Care Coordination (DCC). When three or more referrals for consultations, studies, procedures or other care are generated by a provider, a referral automatically goes to the DCC, who then supervises the scheduling of those interventions in order to improve patient safety, convenience, satisfaction, compliance/adherence, and outcomes.
3. **Targeted follow-up calls.** Physicians ensure that selected patients receive appropriate follow-up calls after clinic visits by using an electronic –tickler|| to designate the appropriate time to call.

4. **Proactive assistance.** Providers can initiate a —care coordination referral by structured template whenever a patient needs financial assistance from The SETMA Foundation, faces safety issues, or has other barriers to care.
5. **Patient-centric reports.** At each visit, patients receive a —coordination summary that provides a succinct review their preventive and screening care, as well as their providers' performance on over 200 quality metrics. In addition, through automated and personalized —plans of care and —treatment plans, SETMA sustains continuity of care among hospital, outpatient facility, nursing home, clinic and home. These plans inform and empower patients in their own care decisions.

7 Outcomes (b) Changes in processes of care and patient outcomes associated with the intervention.

Through its EHR and BI data management tools, SETMA has eliminated any uncertainty about whether it is meeting national quality standards—and its providers no longer need to wait months to receive quality reports from payers. COGNOS software allows every provider to examine performance at the point-of-service on over 200 quality metrics, including age-appropriate screening and preventive care needs.

The discrete data capture capabilities of SETMA's EHR are used to measure, on a daily basis, each individual physician's performance of —best practice standards against every applicable healthcare quality measure available. Before a patient is seen, for example, his or her chart is searched to determine if all HEDIS, NQF, PQRS, PCPI, AQA or NCQA standards have been met. Nurses independently initiate the completion of preventive and screening services according to age requirements.

Software also allowed SETMA to create dashboards that display seasonal outcomes patterns. For instance, trending showed diabetes patients were less healthy from October to January because of lax diet, exercise, and medication interventions during the holiday season. Further analysis revealed lower visit and testing frequency as well. As a result, the practice designed a plan to encourage checkups during the holidays. This issue never could have been noticed, or addressed, by looking at individual patient data.

Dashboards allow the identification of population-wide trends that drive the changes in practice policies that improve care. SETMA has been able to analyze patient populations by: provider panel; practice panel; financial class (payer); ethnic groups; and socio-economic groups. Some of the metrics reviewed include: visit and test frequencies; number of medications taken; changes in treatments; and patient education levels.

SETMA feels that tracking only single or a few quality measures will not substantially change outcomes. So it has defined multiple groups of quality measures and reports on their outcomes as well: a —cluster is seven or more quality metrics for a single condition (e.g., diabetes, hypertension); and a —galaxy is multiple clusters for the same patient (e.g., diabetes, hypertension, lipids and congestive heart failure). Fulfilling —clusters and —galaxies of metrics at the point-of-care will lead to substantial outcomes improvement, SETMA believes. (see Appendix)

Incorporating comprehensive disease management tools within EHR workflow also has furthered the ability of providers to deliver timely, quality care. Tools are available to help facilitate best practices in the diagnosis and treatment of diabetes, hypertension, lipid abnormalities, renal disease, cardiometabolic risk and congestive heart failure. Indeed, the ability to perform quality review while still in the room with a patient bolsters the provision of optimal care during every encounter. A few noteworthy outcomes of SETMA's data-analysis capabilities include:

NCQA recognition as a top-level, Tier III Patient-Centered Medical Home.

AAAH accreditation in ambulatory care and medical home surveys.

Diabetes recognition and affiliation from the NCQA Diabetes Recognition Program and the Joslin Diabetes Center (affiliated with Harvard Medical School).

Treatment compliance at 98% for SETMA providers in regard to guidelines for preventive services and chronic conditions like diabetes, CHF and hypertension.

Chronic disease management tools entrenched in the EHR (for chronic kidney disease, diabetes, hypertension, lipid abnormalities, and more) are used to create highly personalized treatment plans. Even non-nephrology providers, for example, can quickly and accurately assess potential kidney disease.

Daily audits give all providers feedback on patient encounters from the previous day. The immediacy of individual provider performance measurement helps rapidly effect positive change.

Activity reports provided the day prior to a patient visit detail what each patient needs during the next day's visit—including requirements to meet all quality measures being tracked.

Personalized patient education shows progress toward the accomplishment of quality measures. Printers for every exam room allow providers to print personalized education material from the EHR, within workflow, without needing to leave the exam room.

8 Barriers Encountered

SETMA has been capturing quality metrics for over 13 years, but drilling into the data to analyze results historically was time-consuming. With a huge patient database, it typically took 36 hours to run the reports SETMA desired on a daily basis. While quality metrics undoubtedly can unveil tremendously valuable care patterns, they require the tools and/or staff to analyze complex information quickly.

The most common barrier was the time required to fulfill the quality metrics and to capture the data in a reportable manner. This was overcome with SETMA's philosophy of soft ware development. One principle is, —We want to make it easier to do it right than not to do it at all. The development process resulted in systems design which makes it very easy for providers to track their own performance at the point of care and for the healthcare team – nurses, aids, unit clerks and providers – to collaborate to perform the needed actions without interfering with patient care and without adding extensive time to the patient encounter.

Provider anxiety about public reporting was one of the principle barriers which was overcome by:

The determination to do this regardless of the data.

The motivation to improve if the data was not good.

Their ability to know at the point of care how they are doing.

The auditing results which showed the areas in which they were performing well and education classes to show them how to improve their performance where it was substandard.

In the end, patient and provider satisfaction with the patient encounter was outstanding. One illustration of this and the principle of —making it easier, is in the cardiovascular risk assessment of patients. The AAFP recommends that providers calculate all 12 Framingham risk scores every five years for each of their patients. This would normal take 20-30 minutes to do this by pencil and paper. SETMA designed the ability for providers to calculate all 12 risk scores in **one second**. Thus it can be and is done at every visit and it is reported to the patient also. (see Appendix)

9 Challenges Faced

Quality in healthcare remains an elusive quest from the standpoint of definition, determination and demonstration. In quality metric design—whether process or outcomes—the piece which is most often missing is a combination of tracking and auditing. Without the right health IT functionalities and processes, SETMA could not address the complex patient-care issues that PCMH seeks to improve.

The absence of national quality standards, particularly in regard to process in critical areas of care was a challenge. SETMA has joined the National Quality Forum and participated in meetings and conferences to learn how to design and develop quality metrics. As a result, where no metrics existed SETMA developed one. SETMA's Lipid Quality Audit is one illustration. There are outcomes quality metrics defined for LDL levels but there are no process audits endorsed by any agency. In the appendix, SETMA's quality audit for the process of Lipid Management is detailed.

10 Summary

Transparency and quality outcomes measurement are the tools SETMA uses to achieve superior patient-centered care. Practicing medicine without daily analysis of the care provided hinders attempts to engage in best practices. By comparison, tracking provider performance against national quality care benchmarks in real time—and posting that information for internal and public consumption—quickly illuminates areas of excellence and areas needing improvement. The overarching goal: to bolster patient confidence in the standard of care, as well as motivate providers to continue to raise that standard.

Others can create their own tools or they can copy SETMA's. All of our auditing and performance tools are post on our website and can be used without payment to SETMA. The only restriction is that they cannot be copied and sold. By following the trail we have blazed other practices can accomplish the same things we have in less time and with less cost than we have expended.

The keys to success are:

- Get Started – we have not completed anything we have not started.
- Accept imperfection initially – processes are not perfect instantly.
- Celebrate accomplishments even if they are small
- Be relentless – don't give up and if you fail, start again.

Two events define our success with NextGen EMR and EPM. They occurred simultaneously in May, 1999, only four months after we started using the EMR. The first was our realization that this task was too hard and too expensive if all we were to get out of it was the ability to document a patient encounter electronically. It was this realization which pushed us past electronic patient records to electronic patient management. We realized that we had to develop the functionality for the EMR to enhance the quality of patient care, to increase the satisfaction of patients themselves and to expand the knowledge and skills of health care providers, if it was to be –worth it. It also had to expand the healthcare team to include all participants as active, valuable contributions to the delivery of healthcare. In the spring of 1999, we made this transition to electronic patient management and the investment of time and money suddenly was —worth it.

The second event occurred in May, 1999, and it set the tone for the next ten years of EMR implementation. In a moment of frustration at the new system, which at this point of development was cumbersome to use and yielded little more than an acceptable record of a patient encounter, one partner said, —We haven't even begun to crawl yet, speaking of the use of the EMR. SETMA's CEO said, —You're right, but let me ask you a question. When your oldest son first turned over in bed, did you

lament to your wife, _this retarded, spastic child can't even walk, all he can do is turn over in bed,' or did you excitedly announce to your wife, _he turned over in bed!'" He smiled and the CEO added, —If in one year, all we're doing is what we are presently doing, then I'll join you in your complaint. For now, I am going to celebrate the fact that we have started and that we are doing more than before.¶

That celebratory attitude has given SETMA the energy and resolve to face hard times and the vision of electronic patient management has given us direction and substance to our goal. Today, we are not what we were, and we are not yet what we shall be, but we are on a pilgrimage to excellence which will never end. We started eight years ago at MGMA; where is the end? There isn't one and that is what helps us get up day after day, excited about the prospect of the future. Mostly what we celebrate today is the team which EMR has facilitated our forming

11 Interpretation

The next steps SETMA plans to take will focus on improving operational results by analyzing outcomes with financial metrics. As a private practice, it must fund everything strictly on the income it generates. Going forward, the group increasingly plans to use BI to analyze financial metrics to find ways to decrease costs while maintaining or improving care quality. In the end, SETMA hopes this will allow its providers to treat more patients with the same revenue stream. Data management, it believes, is crucial in efforts to control the costs while maintaining the quality of care and improving patient satisfaction and outcomes.

12 Conclusions

Physicians can make a difference in patients' lives when they give them the care, treatment, and education they need – and healthcare organizations can prove it with data management reports. Since starting to analyze daily care results for various patient populations, SETMA has found it much easier to comply with reporting requirements and enhance patient care. The practice, for example, used to develop diabetes care quality metrics based on results from 25 or 36 patients. Now, using EHR and BI tools, it generates those quality metrics based on its entire population of 7,600 diabetes patients. The end result is care that is delivered intentionally, rather than coincidentally.

The electronic patient-management tools that support SETMA's fulfillment of quality measurement sets are displayed on the practice website. Anyone can review the content and display of these EPM Tools, without cost, to help guide development of similar applications. Practices nationwide can adapt these powerful tools to inform and empower their own physicians and patients to achieve higher quality care.

13 Financial Considerations

As a private practice, SETMA funds everything on the income it generates. Cost savings/return on investment analysis will be undertaken in the next phase of operations.

HIMSS Stories of Success! – SETMA
Appendix

At Southeast Texas Medical Associates (SETMA), –care coordination has come to mean:

- 1) ...**Convenience** for the patient which...
- 2) ...results in increased patient **satisfaction**, which contributes to...
- 3) ...patient **confidence** that the healthcare provider cares personally, which...
- 4) ...increases patient **trust** in the provider.

All of this, in turn:

- 5) Increases **compliance** with recommended treatment protocols, which...
- 6) ...promotes **cost** savings due to lessened time and expense for care, which...
- 7) results in increased patient **safety** and **quality** of care.

Two of the technological innovations used by SETMA are designed to improve the quality of patient care through strengthened care transitions. Below are screen shots of the hospital discharge follow-up call template and care coordination referral template discussed in section 7(a)(1) and 7(a)(4) of the Stories of Success! application.

Hospital Discharge Follow-Up Call

[Return](#)

Number to Call Home Phone (409)833-9797
 Day Phone (409)504-5586 [Send Delayed-Delivery Email to Follow-Up Nurse](#)
 Other () -

Admit Date 09/02/2009
 Discharge Date 09/07/2009
 Setting ER
 In Patient
 Hospice Angel Home Health
 Home Health Hospice of Texas

Discharge Diagnoses

DM Type I W/O Comp Uncont
CHF Diastolic Acute
Renal Stage ESRD Chron Dis

Diet Regular
 Exercise

Call Attempts

<input type="checkbox"/> 1		
<input type="checkbox"/> 2		
<input type="checkbox"/> 3		
<input type="checkbox"/> Unable to Call, Letter Sent		

Questions to Ask

General

How are you feeling?
 Are you having new symptoms since hospital stay?
 Have you obtained all DME that you were prescribed?
 Other

Medications

Were you able to get all of your medications filled?
 Are you taking all of your prescribed medications?
 Are you having any problems/side effects from your medications?

Appointments

Have you kept or are you aware of your appointment(s) with...?

Holly	James	on	09/17/2009
		on	
		on	

Follow-Up Call Completed By
 Jonathan W. Owens
 At 09/14/2009 10:24 PM

Spoke with the patient? Yes No
 If no, list person spoken with.

Actions Taken

Advised Patient To Come In - Made Same-Day Appointment
 Advised Patient To Call If Improvement Discontinues
 Advised Patient To Continue Medications
 Other

New Referrals from Visit (This Visit Only)

Status	Priority	Referral	Referring Provider
Completed	Routine	Bone Density	
Completed	Routine	Bronchoscopy	

Patient Responses

Better How does the patient feel?
 Yes Is the patient having new symptoms?
 New Symptoms Nausea, diarrhea

Yes Was the patient able to fill all of their medications?
 Yes Is the patient taking all of their medications?
 No Is the patient having any problems/side effects?

Has the patient kept and/or aware of all scheduled appointments or referrals?

Additional Comments

New/Changed Medications from Visit (This Visit Only)

Generic Name	Brand Name	Dose
ALBUTEROL SULFATE	VENTOLIN HFA	90MCG

Care Coordination Referral

Patient Home Phone
DOB Sex Work Phone

[Return](#)

Please provide care coordination for this patient in the areas selected below.

- | | |
|--|---|
| <input type="checkbox"/> Alcohol Rehabilitation | <input type="checkbox"/> SETMA Foundation |
| <input type="checkbox"/> Assisted Living | <input type="checkbox"/> Dental Care |
| <input type="checkbox"/> Disability Application Assistance | <input type="checkbox"/> DSME |
| <input type="checkbox"/> Drug Rehabilitation | <input type="checkbox"/> Living Expenses |
| <input type="checkbox"/> Employment Counseling | <input type="checkbox"/> Medication |
| <input type="checkbox"/> Handicap Access, Bath | <input type="checkbox"/> MNT |
| <input type="checkbox"/> Handicap Access, Home | <input type="checkbox"/> Procedures |
| <input type="checkbox"/> Home Health | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> In-Home Provider Services | Other <input type="text"/> |
| <input type="checkbox"/> In-Home Safety Evaluation | |
| <input type="checkbox"/> Insurance, Assistance Obtaining | Comments <input type="text"/> |
| <input type="checkbox"/> Lives Alone | |
| <input type="checkbox"/> Long Term Residence Placement | |
| <input type="checkbox"/> Nutritional Support | |
| <input type="checkbox"/> Protective Services, Adult | |
| <input type="checkbox"/> Protective Services, Child | |
| <input type="checkbox"/> Tobacco Cessation | |

[Click to Send to Care Coordination Team](#)

Click once and the request will be automatically sent.

Just as effective use of quality metrics requires tracking, auditing, analyzing, reporting and improving processes, care coordination at SETMA involves intentional efforts to identify opportunities to:

Schedule visits with multiple providers on the same day. Patient schedules are audited for the subsequent 30-60 days to see when they are scheduled with multiple providers.

When medically feasible, those visits are coordinated to be performed on the same day.

Schedule multiple procedures on the same day. By auditing referrals and/or the schedule for the next 30-60 days, SETMA will determine when a patient is scheduled for multiple procedures or tests. When medically feasible, they are coordinated to be performed on the same day.

Schedule procedures or other tests spontaneously. When a patient is seen and the need for a procedure or test is discovered, SETMA scheduling automation is used to try to accommodate patients on the same day.

Recognize when patients will benefit from case management, disease management, or other ancillary services.

Connect patients who need help with medications or other health expenses to appropriate resources, including The SETMA Foundation and other resources.

Time, energy, and expense are conserved with these efforts, in addition to increasing patient compliance with recommended treatment protocols—and thus improving outcomes.

The Future of Healthcare

Efforts to reform healthcare may fail unless they employ three elements upon which SETMA depends in its transformative efforts:

1. The content and standards of healthcare delivery must be evidenced-based medicine.
2. The structure and organization of healthcare delivery must be patient-centered medical home.
3. The payment methodology of healthcare delivery must be that of –Medicare Advantage.

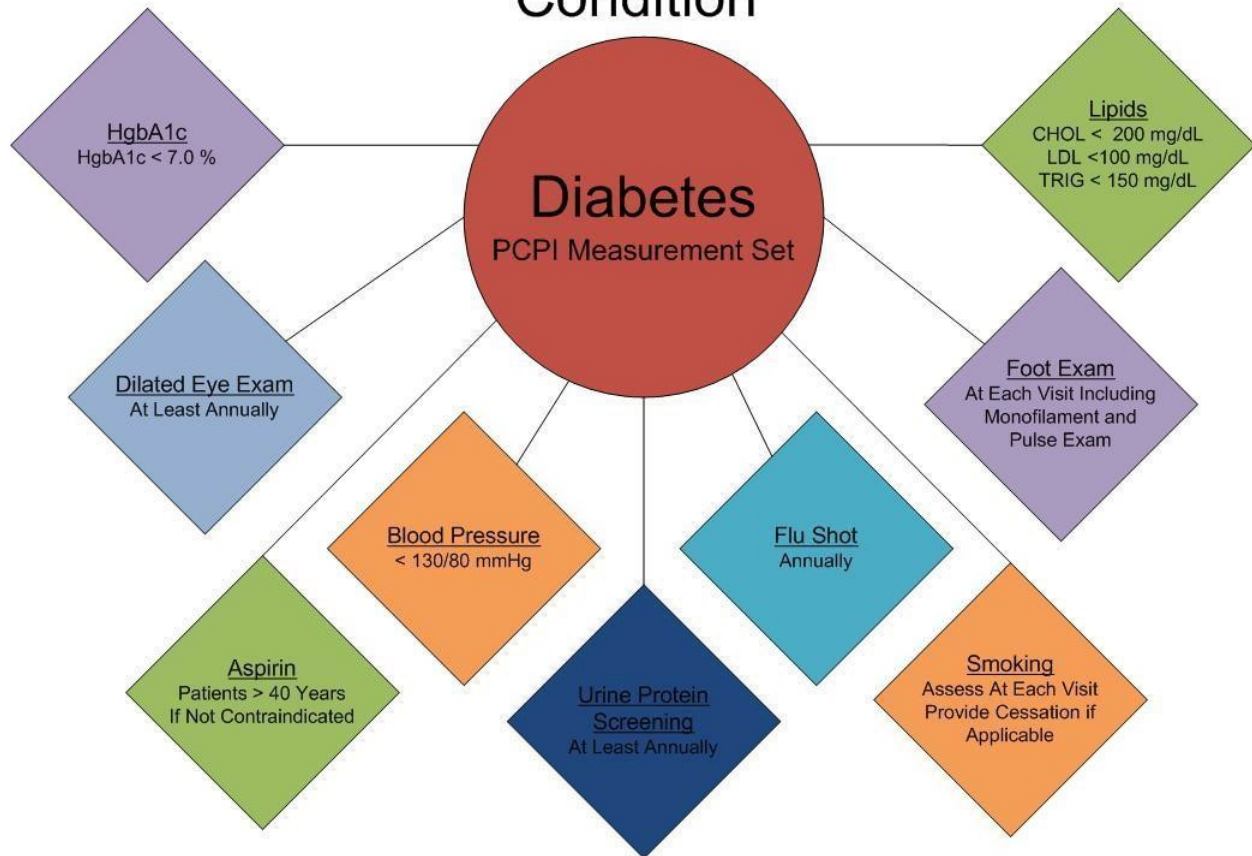
At the core of these principles is SETMA’s belief and practice that one or two quality metrics will have little impact upon the processes and outcomes of healthcare delivery. SETMA employs two definitions in this analysis:

- A *–cluster* is seven or more quality metrics for a single condition, i.e., diabetes, hypertension, etc.
- A *–galaxy* is multiple clusters for the same patient, i.e., diabetes, hypertension, lipids, CHF, etc.

SETMA believes that Fulfilling a single or a few quality metrics does not change outcomes, but fulfilling *–clusters* and *–galaxies* of metrics at the point-of-care can and *will* change outcomes.

The following illustrates the principle of a *–cluster* of quality metrics. A single patient, at a single visit, for a single condition, will have eight or more quality metrics fulfilled for a condition, which **WILL** change the outcome of that patient’s treatment.

A “Cluster” -- Multiple Metrics on a Single Condition



The following illustrates a –galaxy of quality metrics. A single patient, at a single visit, may have as many as 60 or more quality metrics fulfilled in his/her care which WILL change the quality of outcomes.

A "Galaxy" -- Multiple "Clusters" Tracked on a Single Patient at a Single Visit



SETMA's model of care is based on these three principles and these concepts of "clusters" and "galaxies" of quality metrics. We are achieving significant results with them.

Framingham Cardiovascular Risk Calculators

The risk calculations are powerful teaching tools (see "Quantifying Global Cardiovascular Risk American Heart Association Statement," July 26, 2007 and "Changing Patient Behavior with Risk Assessment," May 28, 2010, at www.jameslhollymd.com under "Your Life Your Health") for modifying patient and provider behavior. With the click of one button, my colleagues and I calculate all 12 risk scores in one second.

Once calculated, the risk scores appear in all disease management tools, whether diabetes, dyslipidemia, congestive heart failure, hypertension, chronic stable angina, etc.

The following is how this is displayed in our EHR:

Framingham Heart Study Risk Calculators
Last Updated/Reviewed: 04/16/2010 [Return](#)

General Cardiovascular Disease, 10-Year Risk	Total Points: 23	Total Risk: <30 %
Relative Heart Age: 48 years		
Real Heart Age: 108 years		
Global Cardiovascular Risk Score	Total Points: 8.1	A score above 4 indicates increased risk of a cardiovascular event.
Coronary Heart Disease, 10-Year Risk	Total Points: 17	Total Risk: >27 %
Coronary Heart Disease, 2-Year Risk	Total Points: 8	Total Risk: 0 %

Stroke, 10-Year Risk	Total Points: 18	Total Risk: 27 %

Atrial Fibrillation, 10-Year Risk	Total Points: 0	Total Risk: --- %
Stroke After Atrial Fibrillation	Total Points: 21	Total Risk: 34 %
Stroke or Death After Atrial Fibrillation	Total Points: 9	Total Risk: 43 %

Congestive Heart Failure	Total Points: 7	Total Risk: 2 %

Hard Coronary Artery Disease, 10-Year Risk	Total Points: 20	Total Risk: 11 %
Recurring Coronary Heart Disease	Total Points: 22	Total Risk: 5 %
Intermittent Claudication	Total Points: 14	Total Risk: 2 %

One SETMA provider stated:

—Knowing that your patient has a 20% chance of a cardiac event in the next 10 years sends a powerful message not only to the patient who is able to visualize this on the screen and then take a printed copy

home, but it also helps break —treatment inertia and motivates the provider to modify these risks. The best use of the application is that patients get involved in their health when they are able to translate the fact that they smoke, or have a high LDL, or low HDL into an actual risk of dying in the next 10 years.

—I use these calculators to modify both my patients and my own behavior. I encourage my colleagues to do the same and enter the 21st century of electronic patient management with the use of EHR. We can advance the health and wellness of our patients in incredible ways. Feel free to visit SETMA’s website to see how we utilize these calculators. You will find a tutorial for this tool at www.jameslhollymd.com under

—Electronic Patient Management Tools.’ From that menu, click on —Framingham Cardiovascular Risk Assessment and select —Framingham Heart Study Risk Calculators.¶

The Lipids Treatment Audit

As with all of SETMA’s quality audits, the required data is aggregated electronically and displayed without the provider performing any action other than a single click to open the audit screen.

If an element of the audit is incomplete, by clicking the button to the right of the audit tool, the missing element can be completed with a minimal of time or effort. Once again, this illustrates our principle of —making it easier to do it right than not to do it at all.¶



Lipids Treatment Audit

Most Recent Values	Cholesterol	250	09/01/2009	HDL	10	09/01/2009
	Triglycerides	500	09/01/2009	LDL	160	09/01/2009

Has the patient had a lipid profile within the last year? *Ordered Today*

Has the Lipids Treatment Plan been completed within the last year?

Has the patient been assessed for Cardiometabolic Risk Syndrome within the last year?

If Cardiometabolic Risk Syndrome present, is it listed as a chronic condition?

If most recent LDL > 100, is the patient on a statin?

Have the following lifestyle changes been recommended if applicable?

Stop Smoking, Exercise, Lose Weight, Low Cholesterol Diet, Low Carbohydrate Diet

Has risk stratification for Lipids and Heart Disease been completed within the last year by using the Framingham Cardiovascular Risk Score AND one of the following?

Global Cardiovascular Risk Score, Frederickson Classification of Dyslipidemia, Lipid Disease Management Risk Assessment

Has the patient been referred to Medical Nutrition Therapy at least once?

Referral	Status
SETMA	Completed
Infectious	

Does the patient have Diabetes?

If most recent LDL > 70, is the patient on a statin?

Is the patient's HgbA1c below 7.0%?

Most Recent Result

Ordered Today

Does the patient have Hypertension?

Is the patient's blood pressure below 140/90?

Today's Blood Pressures

/ mmHg

/ mmHg

/ mmHg