The Importance of Data Analytics in a Physician Practice

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THE GUIDELINE
ADVANTAGE™

American Cancer Society®   American Diabetes Association®   American Heart Association® | American Stroke Association®

The Importance of Data Analytics in a Physician Practice

James E. Holly, MD

Founder and CEO of Southeast Texas Medical Associates

(SETMA)

June 13, 2012

The Guideline Advantage — American Cancer Society · American Diabetes Association · American Heart Association | American Stroke Association

Program Model

2 Technology vendors submit collective clinical data to DCRI for The Guideline Advantage

1 Providers can use several different technology platforms

3 Data are processed, analyzed and sent back to the providers or medical practices

4 Performance is measured, Professionals can set measureable goals and chart improvements in performance

Benefits of Participation

- **Flexible data extraction model** working with EHR vendors or directly with platform

- Accepts data currently collected for other programs – **"give us what you've got"**

- Provides **quarterly reports** on data quality and performance feedback on treatment to guidelines

- Includes access to valuable **ACS/ADA/AHA resources**, including professional education and patient education materials

Future opportunities

- Offers **national recognition** for the work physicians do each day

- Allows physicians to participate in **key research** that will change healthcare

Ways to Participate

• **EHR or health information technology vendors** may map and submit data to the program on behalf of their customers.

• Practices with **technological staff may choose to map and submit** directly to the program.

• Practices may **export a standard flat file of data** from their EHR system to DCRI, and DCRI will map the data for the practice.

About The Guideline Advantage

Heart disease, cancer, stroke and diabetes collectively account for more than 1.5 million U.S. deaths each year. Compounding the tragedy is the knowledge that so many of those deaths could be avoided through prevention or disease management. That's why the American Cancer Society, American Diabetes Association and American Heart Association joined forces to address the challenge, focusing on the outpatient setting, where 83 percent of Americans visit physicians each year. The result is a program designed for outpatient practices ranging from general health clinics to specialized physician practices. Offered at no cost to healthcare providers, The Guideline Advantage™ supports consistent use of evidence-based guidelines for prevention and disease management through existing healthcare technology.

The program utilizes data collected through existing electronic health record (EHR) or health technology platforms to report on adherence to established guidelines. The Guideline Advantage provides quarterly feedback reports, including both state and national benchmarks, as well as quality improvement resources and formal recognition for active participation in the program.

www.GuidelineAdvantage.org

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The Nature of Knowledge

- "**Information**" is inherently static while "**learning**" is dynamic and generative (creative). In *The Fifth Discipline,* Peter Senge, said: "Learning is only distantly related to taking in more information…"

- Classically, taking in more information has been the foundation of medical education. Traditional CME has perpetuated the idea that "learning" is simply accomplished by "learning more facts."

Knowledge Can Transform

Knowledge only has power to transform when it is held in the mind of persons who have "**Personal Mastery," which is** the discipline of:

1. continually clarifying and deepening your personal vision (**where you want to go**),
2. focusing your energies (**attention & resources**),
3. developing patience (**relentlessness**), and
4. seeing reality objectively (**telling yourself the truth**)

Transformation Distinguishes Two Groups

- Forward thinkers transform; day dreamers wish for change but seldom see it. Senge said:

  "The juxtaposition of vision (what we want) and a clear picture of current reality (where we are) generates…'**creative tension**,' (which is) a force to bring vision and reality together, through the natural tendency of tension to seek resolution."

Analytics Transform Knowledge

- Analytics transform knowledge into an agent for change. In reality, without analytics, we will neither know where we are, where we are going or how to sustain the effort to get there.

- For transformation to take place through knowledge, we must be prepared to ask the right questions, courageously accept the answers and to require ourselves to change.

Transformation Requires Truthfulness

Those with "personal mastery"

- Live in a continual learning mode.

- They never ARRIVE!

- They are acutely aware of their ignorance, their incompetence, their growth areas.

- And they are deeply self-confident!

Knowing Limitations

- The safest person is not the one who knows everything, which is impossible, but the safest person is the one who knows what she/he does not know.

- You will never be held accountable for what you don't know; you will be held account-able for what you don't know that you don't know.

Healthcare Transformation

- Healthcare transformation, which will produce continuous performance improvement, results from internalized ideals, which create vision and passion, both of which produce and sustain "creative tension" and "generative thinking."

- Transformation is not the result of pressure and it is not frustrated by obstacles. In fact, the more difficult a problem is, the more power is created by the process of transformation in order to overcome the problem.

Analytics and Transformation

- The greatest frustration to transformation is the unwillingness or the inability to face current reality. Often, the first time healthcare provides see audits of their performance, they say, "That can't be right!"

- Through analytics – tracking data, auditing performance, statistical analysis of results – we learn the truth. For that truth to impact our performance, we must believe it.

Analytics and Transformation

Through acknowledging truth, privately and publicly, we empower sustainable change, making analytics a critical aspect of healthcare transformation.

Technology Alone Is Not The Answer

- While an **Electronic Health Record** (EHR) has tremendous capacity to capture data, that is only part of the solution. **The ultimate goal must be to improve patient care and patient health, and to decrease cost, not just to capture and store information!**

- *Electronic Patient Management* employs the power of electronics to track, audit, analyze and display performance and outcomes, thus powering transformation.

Continuous Performance Improvement

- SETMA's philosophy of health care delivery is that every patient encounter ought to be evaluation-al and educational for the patient and provider.

- CPI is not an academic exercise; it is the dynamic of healthcare transformation. The patient and the provider must be learning, if the patient's delivered healthcare and the provider's healthcare delivery are to be continuously improving.

Continuous Performance Improvement

- Addressing the foundation of Continuous Performance Improvement, IOM produced a report entitled: "*Redesigning Continuing Education in the Health Professions*" (Institute of Medicine of National Academies, December 2009).   The title page of that report declares:

  "Knowing is not enough; we must apply.
  Willing is not enough; we must do."
  - Goethe

Public-Reporting: Assumptions

1. Public Reporting by Provider name is transformative but quality metrics are not an end in themselves.

   Optimal health at optimal cost is the goal of quality care. Quality metrics are simply "sign posts along the way." They give directions to health.

   Metrics are like a healthcare "Global Positioning System": it tells you where you are, where you want to be, and how to get from here to there.

Public-Reporting: Assumptions

2. Business Intelligence (BI) statistical analytics are like coordinates to the destination of optimal health at manageable cost.

   Ultimately, the goal will be measured by the well-being of patients, but the guide posts to that destination are given by the analysis of patient and population data.

Public-Reporting: Assumptions

3. There are different classes of quality metrics. No metric alone provides a granular portrait of the quality of care a patient receives, but together, multiple sets of metrics can give an indication of whether the patient's care is going in the right direction. Some of the categories of quality metrics are:

    i.   access,

    ii.   outcome,

    iii.   patient experience,

    iv.   process,

    v.   structure and

    vi.   costs of care.

Public-Reporting: Assumptions

4. The tracking of quality metrics should be incidental to the care patients are receiving and should not be the object of care.

    Consequently, the design of the data aggregation in the care process must be as non-intrusive as possible.

    Notwithstanding, the very act of collecting, aggregating and reporting data will tend to create an Hawthorne effect.

SETMA's Lipid Audit

Public-Reporting: Assumptions

5. The power of quality metrics, like the benefit of the GPS, is enhanced if the healthcare provider and the patient are able to know the coordinates – their performance on the metrics -- while care is being received.

   SETMA's information system is designed so that the provider can know how she/he is performing at the point-of-service.

HEDIS

2011 HEDIS Technical Specifications for Physician Measurement

Legend
Measures in red are measures which apply to this patient that are not in compliance
Measures in black are measures which apply to this patient that are in compliance.
Measures in gray are measures which do not apply to this patient.

Effectiveness of Preventive Care

View   **Adult BMI Assessment**

Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents

Childhood Immunization Status

Immunizations for Adolescents

Lead Screening in Children

Colorectal Cancer Screening

Breast Cancer Screening

Cervical Cancer Screening

Chlamydia Screening in Women

Glaucoma Screening in Older Adults

Use of High-Risk Medications in the Elderly

Care for Older Adults

Effectiveness of Acute Care

View   Appropriate Treatment for Children with Upper Respiratory Infection

View   Appropriate Testing for Children with Pharyngitis

Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis

Effectiveness of Chronic Care

View   Persistence of Beta-Blocker Therapy After a Heart Attack

View   **Controlling High Blood Pressure**

View   **Cholesterol Managment for Patients with Cardiovascular Disease**

Comprehensive Adult Diabetes Care

View   **Use of Appropriate Medications for People with Asthma**

View   Use of Spirometry Testing in the Assessment and Diagnosis of COPD

View   Pharmacotherapy Management of COPD Exacerbation

View   Follow-Up After Hospitalization for Mental Illness

View   Antidepressant Medciation Management

Follow-Up Care for Children Prescribed Attention-Deficit/Hyperactivity Disorder Medication

Osteoporsis Management in Women

Disease Modifying Anti-Rheumatic Drug Therapy for Rheumatoid Arthritis

View   Annual Monitoring for Patients on Persistent Medications

Medication Reconciliation Post-Discharge

Public-Reporting: Assumptions

6. Public reporting of quality metrics by provider name must not be a novelty in healthcare but must be the standard. Even with the acknowledgment of the Hawthorne effect, the improvement in healthcare outcomes achieved with public reporting is real.

PCPI Diabetes

Diabetes Consortium - Blood Pressure Management

E & M Codes: Clinic Only
Encounter Date(s): Jan 1, 2011 through Dec 31, 2011

Report Criteria: Patients 18 to 75 With a Chronic Diagnosis of Diabetes
Specialists Excluded (Dr. Ahmed Included)

Location	Provider	Systolic									Diastolic						
		< 120	120-129	130-139	140-149	150-159	160-169	170-179	>= 180	Not Present	< 75	75-79	80-89	90-99	100-109	>= 110	Not Present
SETMA 1	Aziz	26.6%	31.8%	19.2%	13.6%	5.0%	2.9%	0.3%	0.7%	0.0%	55.0%	13.1%	25.6%	5.5%	0.3%	0.3%	0.1%
	Duncan	35.1%	35.3%	18.4%	8.0%	1.1%	0.8%	0.0%	0.0%	1.3%	50.1%	9.7%	35.1%	3.8%	0.0%	0.0%	1.3%
	Henderson	36.3%	33.1%	18.1%	7.8%	2.9%	1.0%	0.3%	0.3%	0.2%	55.4%	11.8%	28.1%	4.0%	0.2%	0.3%	0.2%
	Murphy	30.5%	29.4%	23.0%	9.5%	3.6%	2.2%	0.8%	0.8%	0.2%	48.5%	8.1%	33.9%	7.2%	1.7%	0.4%	0.2%
	Palang	10.5%	33.2%	29.4%	16.2%	6.5%	2.0%	0.5%	0.0%	1.7%	54.4%	5.0%	32.4%	5.7%	0.7%	0.0%	1.7%
	Thomas	14.0%	41.2%	21.1%	14.9%	6.1%	1.8%	0.9%	0.0%	0.0%	28.1%	14.9%	50.0%	6.1%	0.0%	0.0%	0.9%
SETMA 1 Totals:		28.5%	32.4%	21.3%	10.8%	3.8%	1.9%	0.4%	0.4%	0.5%	51.4%	10.0%	31.6%	5.5%	0.7%	0.2%	0.6%
SETMA 2	Ahmed	36.3%	24.4%	28.1%	8.9%	1.6%	0.3%	0.1%	0.0%	0.2%	63.1%	12.6%	21.6%	2.2%	0.3%	0.0%	0.2%
	Anthony	29.7%	33.2%	19.7%	11.8%	2.7%	1.7%	0.8%	0.5%	0.0%	48.3%	18.2%	29.7%	3.0%	0.7%	0.2%	0.0%
	Anwar	17.0%	48.0%	24.9%	7.0%	2.0%	0.7%	0.0%	0.2%	0.1%	71.2%	14.2%	12.5%	1.5%	0.2%	0.1%	0.2%
	Cricchio, A	25.1%	36.2%	23.0%	9.3%	3.6%	1.7%	0.3%	0.4%	0.4%	56.5%	13.6%	25.0%	4.1%	0.4%	0.1%	0.3%
	Cricchio, M	35.5%	23.4%	20.9%	11.6%	3.5%	2.8%	1.2%	0.5%	0.7%	59.0%	12.4%	20.6%	6.5%	0.8%	0.1%	0.5%
	Holly	28.2%	58.2%	10.0%	1.8%	0.6%	0.6%	0.0%	0.6%	0.0%	70.0%	18.2%	11.2%	0.6%	0.0%	0.0%	0.0%
	Leifeste	37.6%	26.8%	23.2%	7.0%	2.6%	1.1%	0.5%	1.1%	0.1%	54.3%	15.0%	25.3%	4.2%	0.5%	0.5%	0.1%
	Wheeler	22.0%	32.7%	22.8%	11.1%	4.6%	4.4%	1.4%	0.6%	0.2%	57.4%	7.7%	27.7%	6.1%	1.0%	0.0%	0.2%
SETMA 2 Totals:		30.8%	31.2%	24.2%	9.0%	2.5%	1.3%	0.5%	0.4%	0.2%	60.5%	13.4%	22.0%	3.3%	0.5%	0.1%	0.2%
SETMA West	Curry	23.9%	30.5%	24.1%	12.6%	6.3%	1.4%	0.0%	1.1%	0.0%	52.9%	12.9%	27.9%	4.9%	1.4%	0.0%	0.0%
	Deiparine	21.5%	27.4%	22.1%	14.2%	7.0%	4.3%	1.6%	1.6%	0.1%	50.7%	9.1%	23.9%	12.1%	3.0%	1.0%	0.1%
	Halbert	30.6%	24.9%	21.9%	12.0%	6.0%	3.3%	0.7%	0.4%	0.2%	51.6%	13.3%	27.6%	5.4%	1.8%	0.1%	0.1%
	Horn	24.7%	41.5%	31.9%	1.4%	0.2%	0.2%	0.2%	0.0%	0.0%	53.0%	14.8%	31.3%	0.8%	0.2%	0.0%	0.0%
	Qureshi	32.1%	39.5%	17.1%	6.1%	2.4%	1.8%	0.3%	0.3%	0.5%	51.6%	15.5%	28.7%	2.1%	1.6%	0.0%	0.5%
	Satterwhite	18.0%	29.0%	25.0%	11.7%	5.0%	1.3%	1.0%	1.0%	8.0%	42.7%	15.0%	23.7%	7.0%	2.3%	1.3%	8.0%
	Vardiman	25.9%	22.7%	26.2%	17.4%	3.7%	2.1%	0.3%	1.3%	0.3%	50.8%	14.7%	28.1%	4.3%	1.3%	0.5%	0.3%
SETMA West Totals:		25.9%	30.5%	24.1%	10.5%	4.5%	2.3%	0.7%	0.8%	0.8%	51.0%	13.3%	27.5%	5.4%	1.7%	0.4%	0.8%
SETMA Totals:		28.9%	31.3%	23.4%	9.8%	3.4%	1.7%	0.5%	0.5%	0.5%	55.7%	12.5%	25.8%	4.4%	0.8%	0.2%	0.5%

Public-Reporting: Assumptions

7. Quality metrics are not static. New research and improved models of care will require updating and modifying metrics.

Illustrations:

- With diabetes, it may be that HbA1C goals, after twenty years of having the disease, should be different.

- With diabetes, if after twenty years, a patient does not have renal disease, they may not develop it.

Clusters and Galaxies

- 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.

- 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.

Clusters

A "Cluster" -- Multiple Metrics on a Single Condition

Diabetes — PCPI Measurement Set

- **HgbA1c** — HgbA1c < 7.0 %
- **Lipids** — CHOL < 200 mg/dL, LDL <100 mg/dL, TRIG < 150 mg/dL
- **Dilated Eye Exam** — At Least Annually
- **Foot Exam** — At Each Visit Including Monofilament and Pulse Exam
- **Blood Pressure** — < 130/80 mmHg
- **Flu Shot** — Annually
- **Aspirin** — Patients > 40 Years If Not Contraindicated
- **Urine Protein Screening** — At Least Annually
- **Smoking** — Assess At Each Visit Provide Cessation if Applicable

Galaxies

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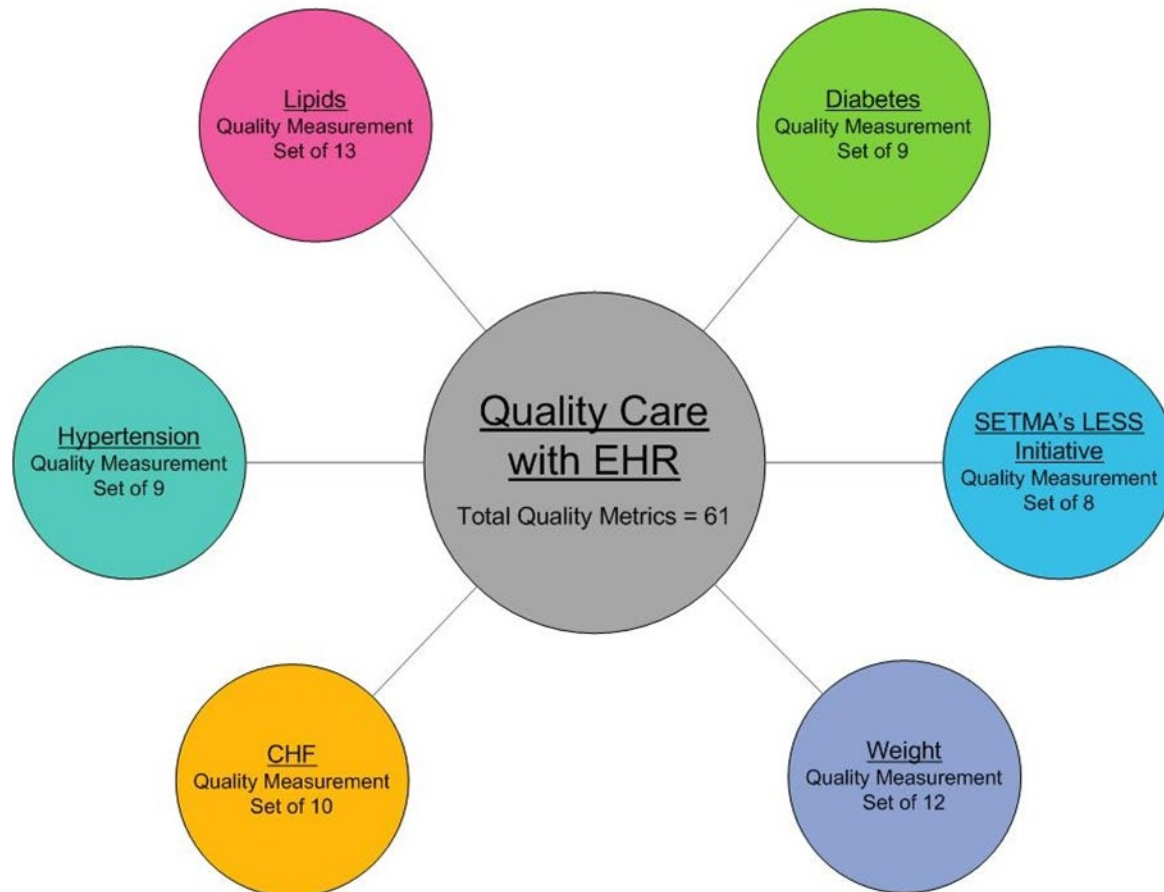
Statistical Analysis

- Beyond these clusters and galaxies of metrics, SETMA uses statistical analysis to give meaning to the data we collect.

- While the clusters and galaxies of metrics are important, we can learn much more about how we are treating a population as a whole through statistical analysis.

Statistical Analysis

- Each of the statistical measurements which SETMA calculates -- the mean, the median, the mode and the standard deviation -- tells us something about our performance, and helps us design quality improvement initiatives for the future.

- Of particular, and often, of little known importance, is the standard deviation.

Mean Versus Standard Deviation

- The mean (average) is a useful tool in analytics but can be misleading when used alone. The mean by itself does not address the degree of variability from the mean.

  - The mean of 40, 50 and 60 is 50.
  - The mean of 0, 50 and 100 is also 50.

- Standard deviation gives added value to the mean by describing how far the range of values vary from the mean.

  - The standard deviation of 0, 50 and 100 is 50.
  - The standard deviation of 40, 50 and 60 is 10.

Mean Versus Standard Deviation

- SETMA's mean HgbA1c has been steadily improving for the last 10 years. Yet, our standard deviation calculations revealed that a small subset of our patients were not being treated successfully and were being left behind.

- By analyzing the standard deviation of our HgbA1c, we have been able to address the patients whose values fall far from the average of the rest of the clinic.

Mean Versus Standard Deviation

Year	Mean	Standard Deviation
2001	7.48	1.98
2002	7.44	1.85
2003	7.40	1.78
2004	7.33	1.68
2005	7.01	1.53
2006	6.87	1.48
2007	6.63	1.53
2008	6.56	1.58
2009	6.65	1.48
2010	6.83	1.33
2011	6.50	1.59

Mode

- The mode helps describe the frequency of an event, number or some other occurrence.

- The mode can be applied to more than just a set of numbers. For example, the mode could be useful if you wanted to find the most frequently occurring principle diagnosis for admission to the hospital or which geographic area (zip code) has the highest frequency for a given condition.

Diabetes Care Improvements

- 2000 – Design and Deployment of EHR-Based Diabetes Management Tool
  - HbA1c Improvement of 0.3%

- 2004 – Design and Deployment of American Diabetes Association Recognized Diabetes Self Management (DSME) Program
  - HbA1c Improvement of 0.3%

- 2006 – Recruitment of Endocrinologist
  - HbA1c Improvement of 0.25%

Diabetes Audit - Trending
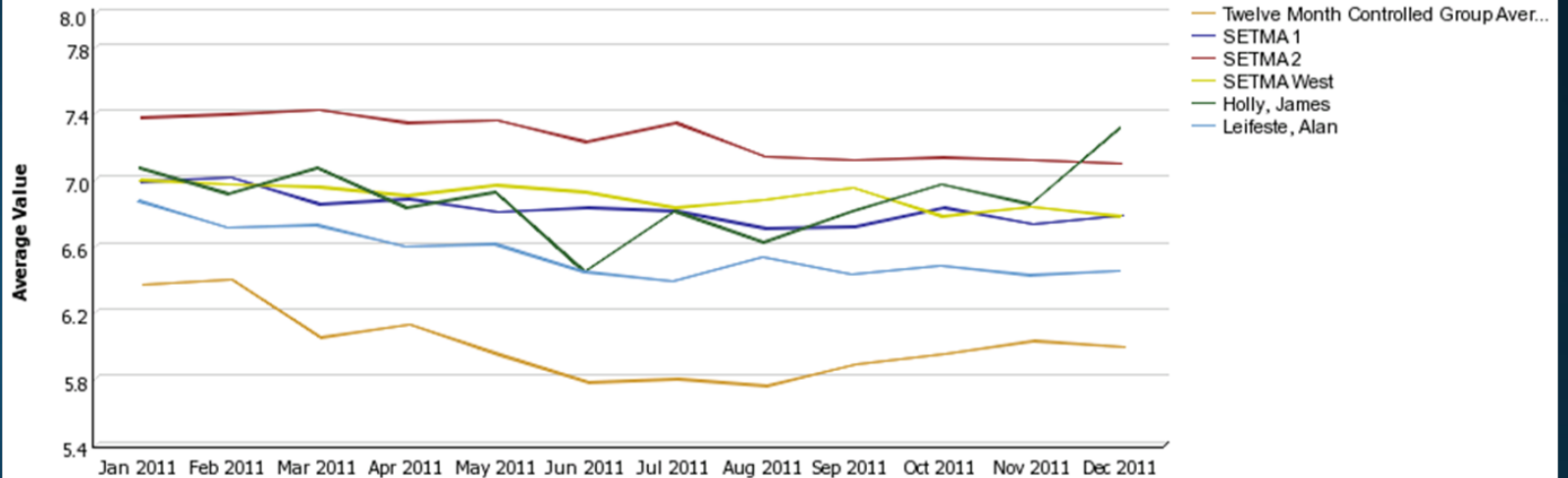
The Value of Trending

In 2009, SETMA launched a Business Intelligence software solution for real-time analytics.

Trending revealed that from October-December,2009, many patients were losing HbA1C control. Further analysis showed that these patients were being seen and tested less often in this period than those who maintained control.

The Value of Trending

- A 2010 Quality Improvement Initiative included writing all patients with diabetes encouraging them to make appointments and get tested in the last quarter of the year.

- A contract was made, which encouraged celebration of holidays while maintaining dietary discretion, exercise and testing.

- *In 2011, trending analysis showed that the holiday-induced loss of control had been eliminated.*

Ethnic Disparities

- In its staff, SETMA is a multi-ethnic, multi-national, multi-faith practice and so we are in our patient population.

- It is important to SETMA that all people receive equal care in access, process and outcomes. As a result, we examine our treatment by ethnicity, as well as by many other categories.

Ethnic Disparities

- Approximately, one-third of the patients we treat with diabetes are African-American and two-thirds are Caucasian. As the control (gold) and uncontrolled (purple) groups demonstrate, there is no distinction between the treatment of these patients by ethnicity, effectively eliminating ethnic disparity in SETMA's treatment of diabetes.

Diabetes Audit - Ethnicity

Ethnicity

	African American	Ethnicity Asian	Caucasian	Hispanic	Other/None
Controlled	35.4%	0.5%	59.5%	2.5%	2.1%
Selected	34.8%	1.1%	58.1%	3.8%	2.3%
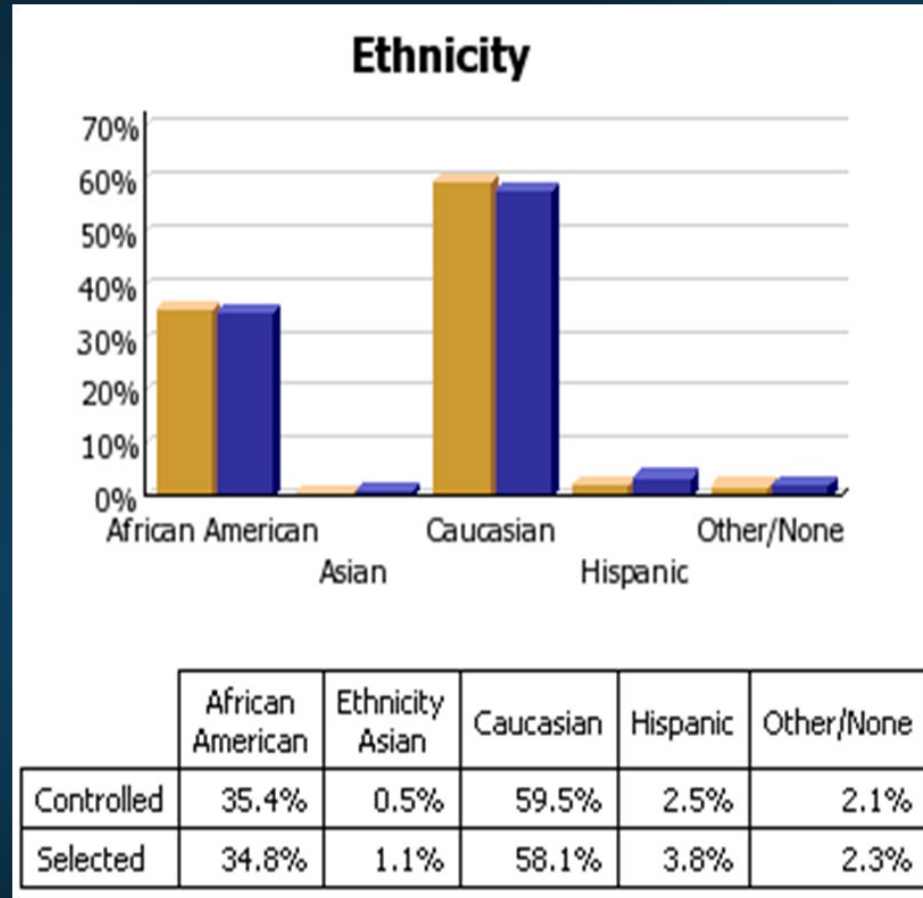
Diabetes Care Improvements

- Financial barriers to care are a significant problem in the United States. seven years ago, SETMA initiated a zero co-pay for capitated, HMO patients in order to eliminate economic barriers to care.

- Comparing FFS Medicare patients and capitated HMO, and uninsured patients, it can be inferred from this data that the elimination of economic barriers results in improved care.

- Through SETMA's Foundation, we are making further attempts to compensate for economic barriers to care.

Diabetes Audit – Financial Class

Financial Class
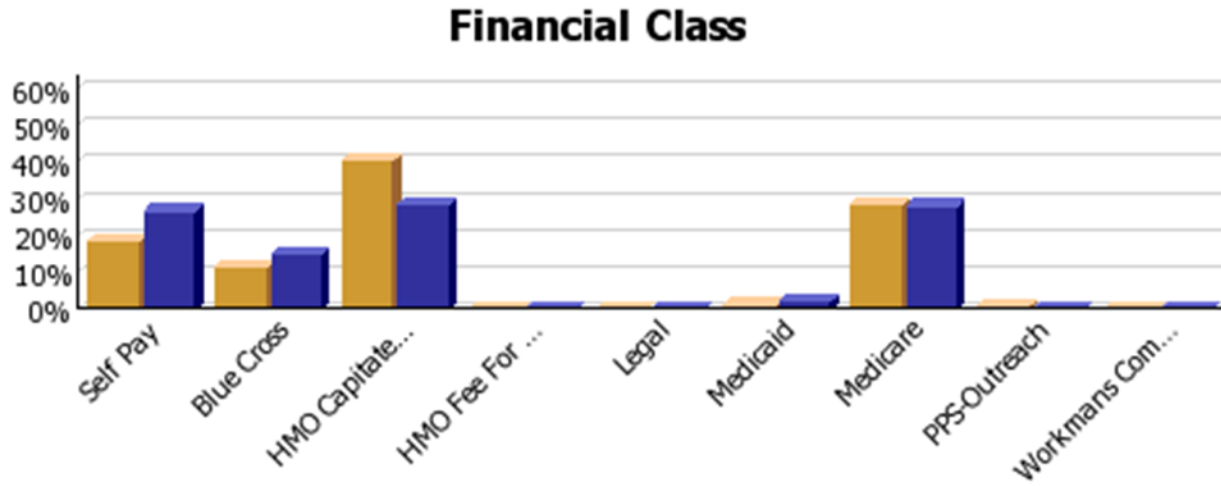
	Self Pay	Blue Cross	HMO Capitated	HMO Fee For Service	Legal	Medicaid	Medicare	PPS-Outreach	Workmans Comp
Controlled	18.4%	11.5%	40.3%	0.0%	0.0%	1.0%	28.3%	0.5%	0.0%
Selected	26.7%	14.9%	28.4%	0.0%	0.0%	1.9%	28.0%	0.1%	0.0%

Auditing Data

- SETMA's ability to track, audit and analyze data has improved as illustrated by the following **NCQA Diabetes Recognition Program audit** which takes 16 seconds to complete through SETMA's Business Intelligence (BI) software deployment.

- While quality metrics are the foundation of quality, auditing of performance is often overlooked as a critical component of the process.

Auditing Data

NCQA Diabetes Measures
Encounter Date(s): January 1, 2011 to December 31, 2011

Provider	Encounters	A1c >9.0 <= 15%	A1c < 8.0 >= 60%	A1c < 7.0 >= 40%	BP > 140/90 <= 35%	BP < 130/80 >= 25%	Eye Exam >= 60%	Smoking Cessation >= 80%	LDL >= 130 <= 37 %	LDL < 100 >= 36%	Nephropathy >= 80%	Foot Exam >= 80%	Total Points
Ahmed	2,938	14.5%	43.8%	29.3%	8.3%	61.7%	63.9%	73.5%	11.3%	64.2%	71.0%	99.3%	72
Anthony	842	9.6%	79.0%	66.2%	14.1%	66.5%	66.6%	83.5%	10.3%	69.4%	93.5%	96.1%	100
Anwar	1,408	8.5%	78.3%	64.1%	5.0%	80.0%	64.8%	96.5%	11.2%	65.8%	92.0%	75.3%	95
Aziz	1,078	10.6%	72.5%	58.3%	18.2%	56.8%	60.2%	95.6%	13.5%	69.5%	83.4%	74.6%	95
Cricchio, A	884	11.9%	44.9%	29.6%	9.2%	71.7%	64.6%	80.2%	10.1%	69.6%	76.5%	99.3%	82
Cricchio, M	967	6.9%	76.9%	63.8%	15.4%	60.9%	65.0%	67.8%	9.6%	67.9%	91.5%	86.6%	90
Curry	435	9.0%	75.2%	60.2%	16.1%	60.9%	70.8%	88.9%	13.6%	64.1%	87.6%	88.3%	100
Deiparine	837	9.4%	71.9%	57.1%	23.3%	52.1%	47.9%	95.5%	13.0%	59.1%	72.0%	83.2%	85
Duncan	766	8.6%	79.5%	67.4%	12.5%	68.7%	57.7%	93.6%	15.4%	65.9%	81.6%	79.9%	85
Halbert	1,348	10.1%	73.9%	61.9%	20.1%	55.4%	36.7%	96.3%	14.8%	61.5%	59.5%	81.4%	85
Henderson	848	10.1%	78.4%	66.5%	9.4%	69.5%	60.4%	95.9%	13.1%	66.4%	84.2%	93.6%	100
Holly	283	6.7%	84.1%	71.4%	3.9%	83.0%	81.6%	71.4%	11.3%	71.4%	97.5%	95.4%	90
Horn	802	5.9%	79.6%	66.7%	2.1%	68.8%	47.3%	92.2%	16.2%	55.0%	81.2%	92.6%	90
Leifeste	991	6.3%	81.6%	71.0%	13.3%	63.2%	72.4%	58.3%	7.9%	70.0%	89.2%	83.5%	90
Murphy	1,504	6.0%	84.7%	70.5%	14.3%	57.7%	45.9%	85.1%	10.6%	75.4%	87.8%	82.4%	90
Palang	678	5.5%	51.6%	42.8%	19.8%	53.1%	22.4%	95.6%	7.7%	50.1%	34.7%	30.8%	72
Qureshi	485	17.5%	63.1%	52.4%	9.1%	70.9%	51.1%	94.1%	16.5%	58.4%	66.6%	95.5%	73
Satterwhite	369	16.0%	60.4%	47.4%	24.1%	54.5%	52.6%	95.0%	19.2%	51.2%	76.7%	80.5%	73
Thomas	166	9.6%	70.5%	47.0%	18.1%	56.0%	77.7%	100.0%	11.4%	62.7%	75.9%	82.5%	95
Vardiman	578	9.5%	73.0%	59.7%	21.8%	47.8%	57.4%	96.6%	15.1%	58.3%	64.4%	84.8%	85
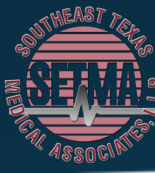
Recognizing Patterns

- SETMA is able to analyze patterns to explain why one population, or one patient is not to goal while others are. Our analysis looks at:
    - Frequency of visits
    - Frequency of testing
    - Number of medications
    - Change in treatment if not to goal
    - Attended Education or not
    - Ethnic disparities of care
   - Age and Gender variations, etc.

Recognizing Patterns

Chronic Hypertension - Measures Comparison (Most Recent 12 Months)

Controlled Group Time Basis: **Prior 12 Months**
Controlled Group Constrained to: **All SETMA**
Practice: **SETMA 1, SETMA 2, SETMA West**
Provider: **None**

Controlled Group
Selected Group

Average Blood Pressure

Visit Frequency

	Systolic
Controlled	121.7
Selected	148.2
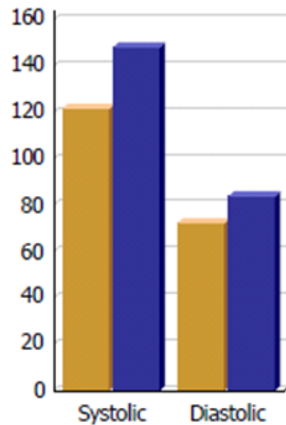
Standard Deviation	
	Systolic
Controlled	10.5
Selected	37.8
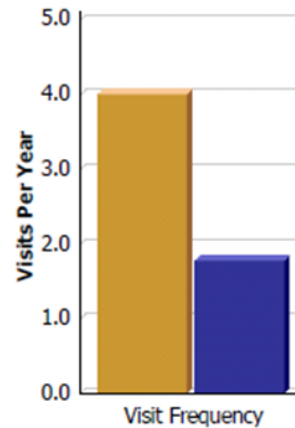
	Visit Frequency
Controlled	4.0
Selected	1.8

Recognizing Patterns
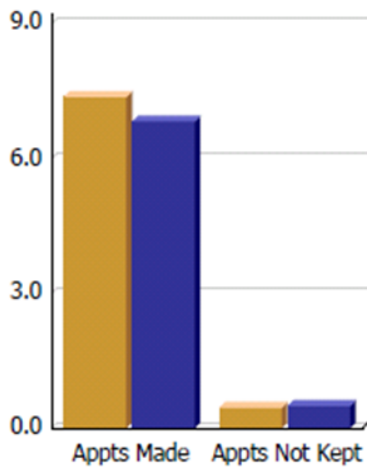
	Appts Made	Appts Not Kept
Controlled	7.4	0.5
Selected	6.8	0.5
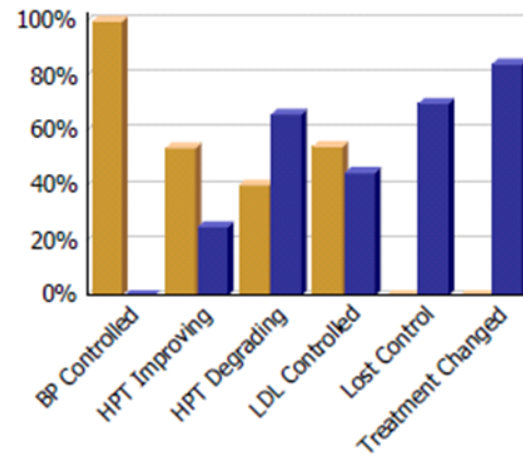
	BP Controlled	HPT Improving	HPT Degrading	LDL Controlled	Lost Control	Treatment Changed
Controlled	100.0%	53.9%	40.3%	54.3%	0.0%	0.0%
Selected	0.0%	25.2%	66.2%	44.9%	70.2%	84.5%

Recognizing Patterns

Age

	< 18	18 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80 - 89	90 +
Controlled	0.0%	0.0%	0.2%	1.8%	10.0%	24.8%	34.7%	24.9%	3.7%
Selected	0.2%	1.4%	5.5%	14.5%	24.7%	23.4%	19.5%	9.3%	1.4%
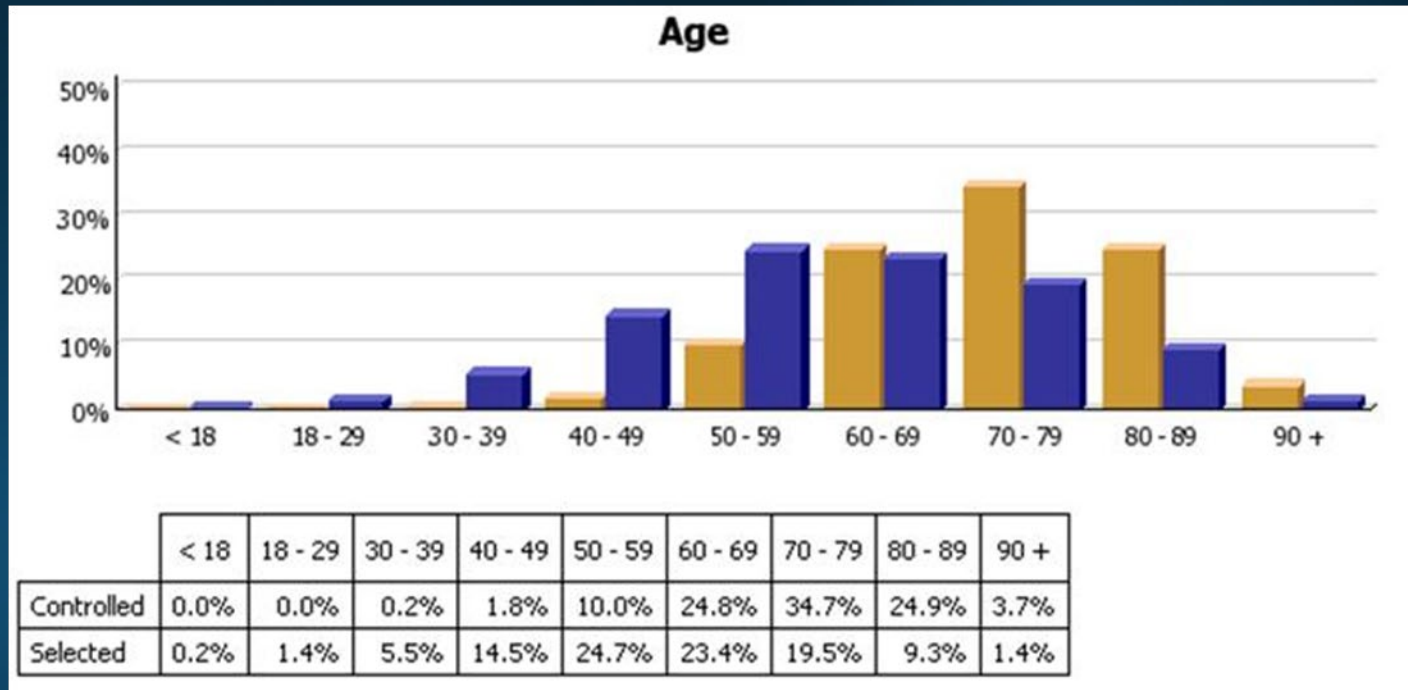
Predictive Modeling

- Our data is not only useful to see how we did or how we are doing, we can also use it to predict the future.

- By looking more closely at our trending results, we can extrapolate those trends into the future and begin to predict what we think will happen.

- By analyzing past trends of patients who have been readmitted to the hospital, we have been able to predict the factors that we believe are likely to reduce a patient's risk of unnecessary readmission to the hospital.

Hospital Readmissions

- When we looked at our past readmission data, we found that three actions played a significant role in keeping patients from coming back to the hospital unnecessarily. They are:

  1. The patient received their Hospital Care Summary and Post Hospital Plan of Care and Treatment Plan (previously called the Discharge Summary) and the time of discharge.
  2. A 12-30 minute care coaching call the day after discharge from the hospital.
  3. Seeing the patient in the clinic within 5 days after discharge.

Hospital Readmissions

Hospital Discharge Analysis

Section I - Admissions and Follow-ups

Prompt Selections

	Selection Group 1	Selection Group 2
Beginning Discharge Date:	Jan 1, 2012	Jan 1, 2012
Ending Discharge Date:	Jan 31, 2012	Jan 31, 2012
Include Readmits:	Within 30 days	Not Within 30 days
Ethnicity:	All	All
Financial Class:	All	All
Zip Code:	All	All
Age:	All	All
Gender:	Both	Both
Living Arrangement:	None Selected	None Selected
Encounters for this Selection:	75	317

	Selection Group 1	**Selection Group 2**
Readmission		
Average Days:	11.61	
Mode:	1.00	
Previous Hospitilization		
Average Days:	7.33	6.08
Mode:	1.00	2.00
Follow-up (Clinic Visit)		
Average Days:	5.45	8.56
Follow-up Visit (%):	26.67%	57.41%

Predictive Modeling

- By predicting our future, we are able proactively to respond in the present. As a result, we have

  - Increased the quality of our care
  - Decreased the cost of our care
  - Increased patient compliance with treatment
  - Increased patient satisfaction

The Four Domains of Health's Future

Since SETMA adopted electronic medical records in 1998, we have come to believe the following about the future of healthcare:

The Substance	Evidence-based medicine and comprehensive health promotion
The Method	Electronic Patient Management
The Dynamic	Patient-Centered Medical Home
The Funding	Capitation and Payment for Quality

The SETMA Model of Care

Founded on the four domains of what we believe to be the future of healthcare, SETMA's mode of care includes the following:

Personal Performance Tracking One patient at a time

Auditing of Performance By panel or population

Analysis of Provider Performance Statistical analysis

Public Reporting By provider name at www.jameslhollymd.com

Quality Assessment and Performance Improvement

The Key to The SETMA Model of Care

- The key to this Model is the real-time ability of providers to measure their own performance at the point-of-care. This is done with multiple displays of quality metric sets, with real-time aggregation of performance, **<u>incidental</u>** to excellent care. The following are several examples which are used by SETMA providers.

Data Aggregation Incidental to Care
Pre-Visit/Preventive Screening

Data Aggregation Incidental to Care
National Quality Forum Measures

- There are similar tools for all of the quality metrics which SETMA providers track each day. The following is the tool for NQF measures currently tracked and audited by SETMA:

Data Aggregation Incidental to Care
National Quality Forum Measures

National Quality Forum (NQF)
National Voluntary Consensus Standards

Legend Measures in red are measures which apply to this patient that are not in compliance.
Measures in black are measures which apply to this patient that are in compliance.
Measures in gray are measures which do not apply to this patient.

General Health Measures

View Body Mass Index Measurement
View Smoking Cessation
       Proper Assessment for Chronic COPD
       Adult Immunization Status

Blood Pressure Measures

View Blood Pressure Measurement
View Blood Pressure Classfication/Control

Medication Measures

View Current Medciation List
View Documentation of Allergies/Reactions
View Therapeutic Monitoring of Long Term Medications
       Drugs to Avoid in the Elderly
View Appropriate Medications for Asthma
View Inappropriate Antibiotic Treatment for
       Adults with Acute Bronchitis
View LDL Drug Therapy for Patients with CAD

Chronic Conditions Measures

View Comprehensive CHF Care
       Osteoarthritis Care

Care for Older Adults

       Counseling on Physical Activity
View Urinary Incontinence in Older Adults
       Colorectal Cancer Screening
       Fall Risk Management

Diabetes Measures

View Dilated Eye Exam
View Foot Exam
View Hemoglobin A1c Testing/Control
View Blood Pressure
View Urine Protein Screening
View Lipid Screening

Female Specific Measures

       Breast Cancer Screening
       Cervical Cancer Screening
       Chlamydia Screening
       Osteoporosis Management

Pediatric Measures

       Appropriate Screening for Children with Pharyngitis
       Childhood Immunization Status

Public Reporting of Performance

- One of the most insidious problems in healthcare delivery is reported in the medical literature as "treatment inertia." This is caused by the natural inclination of human beings to resist change. As a result, when a patient's care is not to goal, often no change in treatment is made.

- To help overcome this "treatment inertia," SETMA publishes all of our provider auditing (both the good and the bad) as a means to increase the level of discomfort in the healthcare provider and encourage performance improvement.

Public Reporting of Performance

Once you "open your books on performance" to public scrutiny; the only place you have in which to hide is excellence!

Engaging The Patient In Their Care

- While we use public reporting to induce change in the care given by our providers, we also take steps to engage the patient and avoid "patient inertia."

- We challenge the patient by giving them information needed to change and the knowledge that making a change will make a difference.

Engaging The Patient In Their Care

Engaging The Patient In Their Care

Your Cardiovascular Risk

As we have discussed, the Framingham Study is the longest longitudinal study ever done. It was started in 1949 and is now multi-generational. While the scores have been criticized for overestimating the cardiovascular and cerebrovascular risk, the values give you a good estimate of the state of your heart health. These are your Framingham Risk Scores calculated on the basis of your current condition. For some scores, you will see a section entitled, "What IF?," which will give you your scores if you made a variety of changes in your life, health or habits. This will let you know how making changes in your life can improve your future health and how those changes will affect your risk scores. These changes are achievable and they will improve your scores and your health. These "What IF?" scores lets you know "if you make a change, it will make a difference."

The good news is that you are not bound by your current scores. If your scores are good, congratulations, but if they are not, you can make a change and that change WILL MAKE A DIFFERENCE. There are a number of elements used in calculating the various risk scores. Some of them are not changeable, such as age, gender, past medical history, etc. However, many of them are changeable, such as: smoking, blood pressure, diabetes control as measured by hemoglobin A1C, cholesterol control as measured by cholesterol or HDL (the good cholesterol), weight, etc.

Global Cardiovascular Risk

Your current Global Cardiovascular Risk Score is 13.9 points. (a score below 4 is desirable)

WHAT IF?

If you improved only your blood pressure to a controlled value, you would reduce your risk to 9.3 points.
If you improved only your cholesterol and HDL to controlled values, you would reduce your risk to 8.9 points.
If you improved only your HgbA1c to a controlled value, you would reduce your risk to 11.9 points.
If you improved your blood pressure, cholesterol and HDL and HgbA1c by only 20%, you would reduce your risk to 5.2 points.
If you brought your blood pressure, cholesterol and HDL and HgbA1c each to controlled values, you would reduce your risk to .5 points.

Engaging The Patient In Their Care
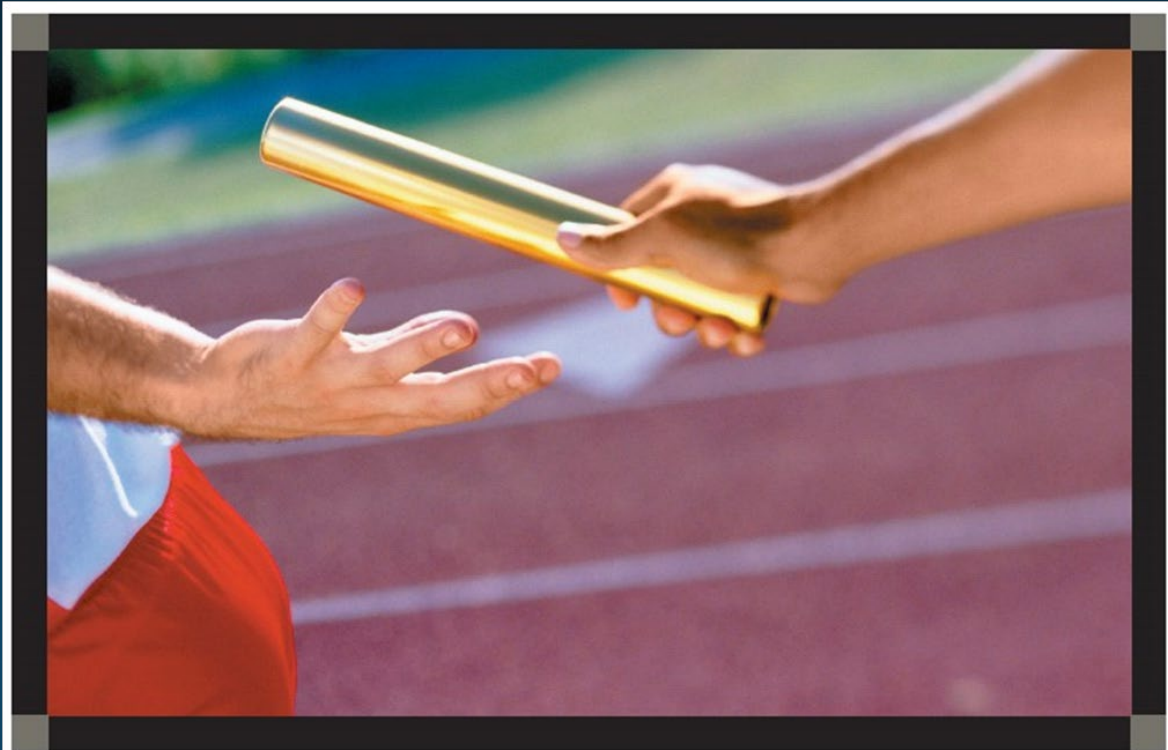
Firmly in the provider's hand,
the baton – *the care and treatment plan* –
must be confidently and securely grasped by the patient,
if change is to make a difference,
8,760 hours a year.

Questions?

Type question into the Q&A tab at the top of your screen.

Additional questions email laura.jansky@heart.org

Download this slide deck within 5-7 working days from:

GuidelineAdvantage.org