The Importance of Data Analytics in a Physician Practice

To access the audio portion:

Dial: 866-832-6378

Pass Code: 72854013

Note: The webinar will be archived and hosted on www.GuidelineAdvantage.org within one week.
Providers can use several different technology platforms.

Technology vendors collect clinical data for The Guideline Advantage.

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

Performance is measured, professionals can set measurable goals and chart improvements in performance.
Benefits of Participation

• Flexible data extraction model working directly with platform
• 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
Find out how your practice can participate in The Guideline Advantage and REGISTER TODAY.

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
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 Importance of Data Analytics in Physician Practice

The Guideline Advantage™
June 13, 2012

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CEO, SETMA, LLP

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Department of Family and Community Health
School of Medicine
The University of Texas Health Science Center at San Antonio
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 accountable 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 providers 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 publically, 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 “signposts 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

Lipids Treatment Audit

Most Recent Values
- Cholesterol: 185, 09/21/2011
- HDL: 30, 09/21/2011
- LDL: 113, 09/21/2011
- Triglycerides: 111, 09/21/2011

Has the patient had a lipid profile within the last year? [Yes]
Has the Lipids Treatment Plan been completed within the last year? [Yes]
Has the patient been assessed for Cardiometabolic Risk Syndrome within the last year? [Yes]
- If Cardiometabolic Risk Syndrome present, is it listed as a chronic condition? [No]
If most recent LDL > 100, is the patient on a statin? [N/A]
- Is the patient allergic to statins? [Yes / No] [Yes]
Have the following lifestyle changes been recommended if applicable?
- Stop Smoking, Exercise, Lose Weight, Low Cholesterol Diet, Low Carbohydrate Diet
- Yes
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, Frederiksen Classification of Dyslipidemia, Lipid Disease Management Risk Assessment
- Yes
Has the patient been referred to Medical Nutrition Therapy at least once? [Yes]

Does the patient have Diabetes? [No]
- If most recent LDL > 70, is the patient on a statin? [N/A]
- Is the patient’s HgbA1c below 7.0%? [N/A]

Does the patient have Hypertension? [Yes]
- Is the patient’s blood pressure below 140/90? [Yes]
  - Today’s Blood Pressures:
    - Systolic: 120 mmHg
    - Diastolic: 80 mmHg
- Most Recent Result: 12.2, 10/29/2011
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.
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

Effectiveness of Chronic Care
- View Persistence of Beta-Blocker Therapy After a Heart Attack
- View Controlling High Blood Pressure
- View Cholesterol Management for Patients with Cardiovascular Disease
  - Comprehensive Adult Diabetes Care
  - Use of Appropriate Medications for People with Asthma
  - Use of Spirometry Testing in the Assessment and Diagnosis of COPD
  - Pharmacotherapy Management of COPD Exacerbation
  - Follow-Up After Hospitalization for Mental Illness
  - Antidepressant Medication Management
    - Follow-Up Care for Children Prescribed Attention-Deficit/Hyperactivity Disorder Medication
    - Osteoporosis Management in Women
    - Disease Modifying Anti-Rheumatic Drug Therapy for Rheumatoid Arthritis
    - Annual Monitoring for Patients on Persistent Medications
    - Medication Reconciliation Post-Discharge
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)

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<th>140-149</th>
<th>150-159</th>
<th>160-169</th>
<th>170-179</th>
<th>&gt;= 180</th>
<th>Not Present</th>
<th>&lt; 75</th>
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<th>80-89</th>
<th>90-99</th>
<th>100-109</th>
<th>&gt;= 110</th>
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<td>0.4%</td>
<td>0.2%</td>
<td>60.5%</td>
<td>13.4%</td>
<td>22.0%</td>
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<td>4.4%</td>
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<td>0.5%</td>
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</table>
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

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

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

- Lipids
  - Quality Measurement Set of 13
- Diabetes
  - Quality Measurement Set of 9
- Hypertension
  - Quality Measurement Set of 9
- SETMA's LESS Initiative
  - Quality Measurement Set of 8
- CHF
  - Quality Measurement Set of 10
- Weight
  - Quality Measurement Set of 12

Quality Care with EHR
Total Quality Metrics = 61
• 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

<table>
<thead>
<tr>
<th>Year</th>
<th>Mean</th>
<th>Standard Deviation</th>
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<tbody>
<tr>
<td>2001</td>
<td>7.48</td>
<td>1.98</td>
</tr>
<tr>
<td>2002</td>
<td>7.44</td>
<td>1.85</td>
</tr>
<tr>
<td>2003</td>
<td>7.40</td>
<td>1.78</td>
</tr>
<tr>
<td>2004</td>
<td>7.33</td>
<td>1.68</td>
</tr>
<tr>
<td>2005</td>
<td>7.01</td>
<td>1.53</td>
</tr>
<tr>
<td>2006</td>
<td>6.87</td>
<td>1.48</td>
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</tr>
<tr>
<td>2011</td>
<td>6.50</td>
<td>1.59</td>
</tr>
</tbody>
</table>
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
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

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>African American</th>
<th>Ethnicity Asian</th>
<th>Caucasian</th>
<th>Hispanic</th>
<th>Other/None</th>
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<td>58.1%</td>
<td>3.8%</td>
<td>2.3%</td>
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</tbody>
</table>
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 Diagram]

<table>
<thead>
<tr>
<th></th>
<th>Self Pay</th>
<th>Blue Cross</th>
<th>HMO Capitated</th>
<th>HMO Fee For Service</th>
<th>Legal</th>
<th>Medicaid</th>
<th>Medicare</th>
<th>PPS-Extramural Outreach</th>
<th>Workmans Comp</th>
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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

<table>
<thead>
<tr>
<th>Provider</th>
<th>Encounters</th>
<th>A1c &gt;9.0 ≤15%</th>
<th>A1c &lt; 8.0 ≥60%</th>
<th>A1c &lt; 7.0 ≥40%</th>
<th>BP &gt; 140/90 ≤35%</th>
<th>BP &lt; 130/80 ≥25%</th>
<th>Eye Exam ≥60%</th>
<th>Smoking Cessation ≥80%</th>
<th>LDL ≥ 130 ≤37%</th>
<th>LDL &lt; 100 ≥36%</th>
<th>Nephropathy ≥90%</th>
<th>Foot Exam ≥60%</th>
<th>Total Points</th>
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<td>58.3%</td>
<td>64.4%</td>
<td>64.8%</td>
<td>85</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th></th>
<th>Controlled</th>
<th>Selected</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Systolic</strong></td>
<td>121.7</td>
<td>148.2</td>
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<tr>
<td><strong>Diastolic</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Standard Deviation</th>
<th>Systolic</th>
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<tbody>
<tr>
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<td>Selected</td>
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<table>
<thead>
<tr>
<th></th>
<th>Controlled</th>
<th>Selected</th>
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</thead>
<tbody>
<tr>
<td><strong>Visit Frequency</strong></td>
<td>4.0</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Average Blood Pressure

Visits Per Year

Visit Frequency
Recognizing Patterns

[Bar charts showing appointment data and table with percentages for treatment status]
Recognizing Patterns

Age Distribution Table:

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Controlled</th>
<th>Selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 18</td>
<td>0.0%</td>
<td>0.2%</td>
</tr>
<tr>
<td>18 - 29</td>
<td>0.0%</td>
<td>1.4%</td>
</tr>
<tr>
<td>30 - 39</td>
<td>0.2%</td>
<td>5.5%</td>
</tr>
<tr>
<td>40 - 49</td>
<td>1.8%</td>
<td>14.5%</td>
</tr>
<tr>
<td>50 - 59</td>
<td>10.0%</td>
<td>24.7%</td>
</tr>
<tr>
<td>60 - 69</td>
<td>24.8%</td>
<td>23.4%</td>
</tr>
<tr>
<td>70 - 79</td>
<td>34.7%</td>
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</tr>
<tr>
<td>80 - 89</td>
<td>24.9%</td>
<td>9.3%</td>
</tr>
<tr>
<td>90 +</td>
<td>3.7%</td>
<td>1.4%</td>
</tr>
</tbody>
</table>
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 Discharge Analysis

**Section I - Admissions and Follow-ups**

<table>
<thead>
<tr>
<th>Prompt Selections</th>
<th>Selection Group 1</th>
<th>Selection Group 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning Discharge Date:</td>
<td>Jan 1, 2012</td>
<td>Jan 1, 2012</td>
</tr>
<tr>
<td>Ending Discharge Date:</td>
<td>Jan 31, 2012</td>
<td>Jan 31, 2012</td>
</tr>
<tr>
<td>Include Readmits:</td>
<td>Within 30 days</td>
<td>Not Within 30 days</td>
</tr>
<tr>
<td>Ethnicity:</td>
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<td>All</td>
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<tr>
<td>Financial Class:</td>
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<td>All</td>
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<tr>
<td>Zip Code:</td>
<td>All</td>
<td>All</td>
</tr>
<tr>
<td>Age:</td>
<td>All</td>
<td>All</td>
</tr>
<tr>
<td>Gender:</td>
<td>Both</td>
<td>Both</td>
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<tr>
<td>Living Arrangement:</td>
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<td>None Selected</td>
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<td>Encounters for this Selection:</td>
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#### Readmission

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<td>Average Days:</td>
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<tr>
<td>Mode:</td>
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#### Previous Hospitalization

<table>
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<td>Average Days:</td>
<td>7.33</td>
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<tr>
<td>Mode:</td>
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</tbody>
</table>

#### Follow-up (Clinic Visit)

<table>
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<th>Selection Group 2</th>
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<tbody>
<tr>
<td>Average Days:</td>
<td>5.45</td>
</tr>
<tr>
<td>Follow-up Visit (%):</td>
<td>26.67%</td>
</tr>
</tbody>
</table>
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.setma.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, \textit{incidental} to excellent care. The following are several examples which are used by SETMA providers.
### Pre-Visit/Preventive Screening

#### General Measures (Patients >18)
- Has the patient had a tetanus vaccine within the last 10 years?
  - Date of Last: 06/03/2005
  - Order Tetanus: Yes
- Has the patient had a flu vaccine within the last year?
  - Date of Last: 10/19/2011
  - Order Flu Shot: Yes
- Has the patient ever had a pneumonia shot? (Age>50)
  - Date of Last: 01/06/2005
  - Order Pneumovax: N/A
- Does the patient have an elevated (>100 mg/dL) LDL?
  - Last: 113
  - Order Lipid Profile: Yes
- Has the patient been screened at least once for HIV? (Age 13-84)
  - Date of Last: 07/27/2011
  - Order HIV Screen: Yes

Testing not required if patient refused or if positive diagnosis previously confirmed.

- Click If Patient Refuses Testing

#### Elderly Patients (Patients >65)
- Has the patient had an ocular blood test within the last year? (Patients >50)
  - Date of Last: 11/08/2011
- Has the patient had a fall risk assessment completed within the last year?
  - Date of Last: N/A
- Has the patient had a functional assessment within the last year?
  - Date of Last: 04/01/2011
- Has the patient had a pain screening within the last year?
  - Date of Last: 04/01/2011
- Has the patient had a glaucoma screen (dilated exam) within the last year?
  - Date of Last: 02/03/2011

#### Diabetic Patients
- Has the patient had a HgbA1c within the last year?
  - Date of Last: 10/29/2011
- Has the patient had a dilated eye exam within the last year?
  - Date of Last: 02/03/2011
- Has the patient had a 10-gram monorifilament exam within the last year?
  - Date of Last: 09/24/2011
- Has the patient had screening for nephropathy within the last year?
  - Date of Last: 06/06/2010
- Has the patient had a urinalysis within the last year?
  - Date of Last: 07/07/2011
- Has the patient ever been referred to DSME?
  - Date of Last: N/A
- Has the patient been referred to DSME within the last two years?
  - Date of Last: N/A

#### Female Patients
- Has the patient had a pap smear within the last two years? (Ages 21 to 64)
  - Date of Last: N/A
- Has the patient had a mammogram within the last two years? (Ages 40 to 69)
  - Date of Last: N/A
- Has the patient had a bone density scan within the last two years? (Age>50)
  - Date of Last: N/A

#### Male Patients
- Has the patient had a PSA within the last year? (Age>40)
  - Date of Last: 04/02/2007
- Has the patient had a bone density within the last two years? (Age>65)
  - Date of Last: 03/27/2009

#### Referrals (Double-Click To Add/Edit)

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<tr>
<th>Referral</th>
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**Data Aggregation Incidental to Care**

**Pre-Visit/Preventive Screening**
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**

<table>
<thead>
<tr>
<th>Legend</th>
<th>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.</th>
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</thead>
<tbody>
<tr>
<td>General Health Measures</td>
<td>Care for Older Adults</td>
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<tr>
<td><strong>View</strong></td>
<td>Counseling on Physical Activity</td>
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<tr>
<td><strong>View</strong></td>
<td>Urinary Incontinence in Older Adults</td>
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<td><strong>View</strong></td>
<td>Colorectal Cancer Screening</td>
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<td></td>
<td>Fall Risk Management</td>
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<td><strong>View</strong></td>
<td>Blood Pressure Measures</td>
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<td>Diabetes Measures</td>
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<td><strong>View</strong></td>
<td>Female Specific Measures</td>
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<td><strong>View</strong></td>
<td>Breast Cancer Screening</td>
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<td><strong>View</strong></td>
<td>Cervical Cancer Screening</td>
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<td>Osteoporosis Management</td>
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<td><strong>View</strong></td>
<td>Chronic Conditions Measures</td>
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<td><strong>View</strong></td>
<td>Pediatric Measures</td>
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<tr>
<td><strong>View</strong></td>
<td>Appropriate Screening for Children with Pharyngitis</td>
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<tr>
<td><strong>View</strong></td>
<td>Childhood Immunization Status</td>
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<table>
<thead>
<tr>
<th>View</th>
<th>Body Mass Index Measurement</th>
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<tr>
<td>View</td>
<td>Smoking Cessation</td>
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<tr>
<td></td>
<td>Proper Assessment for Chronic COPD</td>
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<tr>
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<td>Adult Immunization Status</td>
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<tr>
<td>View</td>
<td>Blood Pressure Measurement</td>
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<td>Blood Pressure Classification/Control</td>
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<td>Current Medication List</td>
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<td>Documentation of Allergies/Reactions</td>
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<td>Drugs to Avoid in the Elderly</td>
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<td>View</td>
<td>Appropriate Medications for Asthma</td>
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<td>Inappropriate Antibiotic Treatment for Adults with Acute Bronchitis</td>
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<td>LDL Drug Therapy for Patients with CAD</td>
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<td>View</td>
<td>Comprehensive CHF Care</td>
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<td>View</td>
<td>Osteoarthritis Care</td>
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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

### Framingham Heart Study Risk Calculators

**General Cardiovascular Disease, 10-Year Risk**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Total Points</th>
<th>Total Risk (%</th>
<th>Relative Heart Age (years)</th>
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</thead>
<tbody>
<tr>
<td>Total Points</td>
<td>18</td>
<td>&gt;30</td>
<td>&gt;80</td>
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<tr>
<td>Real Heart Age, 45 years</td>
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</table>

**WHAT IF?**

<table>
<thead>
<tr>
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<th>Total Points</th>
<th>Total Risk (%</th>
<th>Relative Heart Age (years)</th>
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</thead>
<tbody>
<tr>
<td>All Elements To Goal</td>
<td>10</td>
<td>9.4</td>
<td>54</td>
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<tr>
<td>Overall 20% Improvement</td>
<td>14</td>
<td>18.4</td>
<td>68</td>
</tr>
<tr>
<td>Blood Pressure To Goal</td>
<td>15</td>
<td>21.6</td>
<td>72</td>
</tr>
<tr>
<td>Lipids To Goal</td>
<td>13</td>
<td>15.6</td>
<td>64</td>
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<tr>
<td>Smoking Cessation (if applicable)</td>
<td>0</td>
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<td>N/A</td>
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</table>

**Global Cardiovascular Risk Score**

<table>
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<th>Factor</th>
<th>Total Points</th>
<th>Total Risk (%</th>
<th>Relative Heart Age (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Points</td>
<td>13.9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**WHAT IF?**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Total Points</th>
<th>Total Risk (%</th>
<th>Relative Heart Age (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Elements To Goal</td>
<td>0.5</td>
<td>5.2</td>
<td></td>
</tr>
<tr>
<td>Overall 20% Improvement</td>
<td>5.2</td>
<td>8.9</td>
<td></td>
</tr>
<tr>
<td>Blood Pressure To Goal</td>
<td>9.3</td>
<td>11.9</td>
<td></td>
</tr>
<tr>
<td>Lipids To Goal</td>
<td>8.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HgbA1c To Goal</td>
<td>11.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smoking Cessation (if applicable)</td>
<td>0.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Coronary Heart Disease, 10-Year Risk**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Total Points</th>
<th>Total Risk (%</th>
<th>Relative Heart Age (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Points</td>
<td>10</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>

**WHAT IF?**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Total Points</th>
<th>Total Risk (%</th>
<th>Relative Heart Age (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Elements To Goal</td>
<td>4</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Overall 20% Improvement</td>
<td>4</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Blood Pressure To Goal</td>
<td>7</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Lipids To Goal</td>
<td>7</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Smoking Cessation (if applicable)</td>
<td>10</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>
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