

**Course Syllabus “Leading the Charge”**  
**Driving Clinical Improvement using EMR and Core Principles of**  
**Lean Six Sigma**  
*Colorado AHEC and SigmaMed Solutions*  
*May 13-15, 2011*  
*Anschutz Medical Campus, Building Education 2 South, Room 2206*

**Background:** With the national drive to implement Electronic Medical Records (EMR), a shortage of workers with the skills necessary to ensure their efficient and effective utilization has become apparent. Installing an EMR on top of legacy systems and processes without process redesign is a recipe for disaster and could have the unintended consequence of decreasing the time providers have for patient care, increasing the prevalence of medical errors, and increasing inefficiency.

With an understanding of core Lean Six Sigma process improvement techniques and their application to the effective utilization of an EMR, clinical and IT workers may serve an important role in bringing about clinical outcome improvement and realizing the other financial goals underlying the implementation of EMR. Healthcare Managers, Practice Administrators, entry-level and existing employees will benefit from the understanding of their role in the improvement of the delivery of healthcare provided by this course.

### **Course Objectives**

- To prepare IT and clinical workers to be key drivers in the Healthcare Information Technology change process. At the end of the training, they will:
- Understand and apply a model to become a positive change agent for clinical outcome improvement and EMR workflow efficiency.
  - Have an understanding for the importance of skills for:
    1. Increasing Patient Satisfaction
    2. Improving Healthcare Outcomes
    3. Improving Cost and Profit Positions for Practices and Hospitals
    4. Improving Physician and Staff Satisfaction with Work Processes and HIT Systems
    5. Meeting Meaningful Use Criteria Efficiently
    6. Connecting with the State HIE to Enhance Information Flow Between Providers

### **Course Syllabus**

#### **1. Online Pework and Competency Testing**

Approximately 6 hours of online time 2 weeks before the course. Online pre-work will be delivered by state of the art online instructional methods.

- Relational databases (RDB) refresher and competency test

- Electronic Medical Record database structure. Introduction to the Simple EMR simulation database (online learning and practice EMR database).
- Basic wired and wireless networking concepts refresher and competency
- State of the US Healthcare system, including overall costs, reimbursement trends, outcomes, contrasted with other developed countries. Workforce demands to meet the government strategy for healthcare cost reduction and outcomes. Overview of Patient Centered Medical Home, HRSA iCare, and Accountable Care Organizations.
- Overview of the Office of the National Coordinator [ONC] strategy for US Healthcare Information Technology, including the desired outcomes for Healthcare improvement.
- HIPPA standards for healthcare information privacy, including access control and illegal disclosure. Focus is on the HIT role in managing sensitive data.
- Data exchange standards for HIT, including HL7 and DICOM. Overview of technology for regional data exchange (e.g. Quality Health Network [QHN] and Colorado Regional Healthcare Information Organization [CORHIO]).
- ICD 9/10 disease coding standards and CPT procedure coding.

## **2. Group Seminar Syllabus**

### **Day 1 – Friday, May 13, 8:00 am to 5:00 pm**

- A. Course Overview** **Wray Paul, MS, LSSMBB, PMP**
- Objectives
  - Structure of Course
  - Certifications
- B. Major Process Changes in Healthcare** **Jack Westfall, MD, AHEC Director  
Assoc. Dean Rural Health, CU Med School**
- Chronic Disease Management
  - CPOE
  - Medication Reconciliation
  - Transitions of Care, PCMH, ACOs
- C. Shift in the IT Role in the Organization** **Wray Paul**
- From helping hands to IT as facilitators of Lean and effective healthcare
- D. Patient Centered Medical Home** **Allyson Gottsmann, EVP, Healthteamworks**
- E. Meaningful Use Overview and Objectives** **Robyn Leone, Director CO-REC**
- IT Interface to Community Health Record
  - CORHIO
  - COREC Services
- F. Overview of Key Healthcare EMR Concepts**
- G. Effective Transitions in Healthcare Require 4 Key Skills** **Wray Paul**
- How and Why to Change (Accelerating Change and Transitions™)
  - Leadership Skills
  - Project Management Skills
  - Process Improvement Tools (Lean Six Sigma)
- H. Accelerating Change and Transitions™ (courtesy of Destra Consulting)** **Jamie Martin**

- Beating the Odds: Why 2/3 of Transformations Fail
- Kotter Model & Barriers to Change
- **Effectiveness** of Change is a function of the **Quality** of the Change Project and the **Acceptance** by the Organization
- ACT model — overcoming the Kotter Barriers
- Tools for Creating a Sense of Urgency
- SigmaMed Unified Change Model

## I. Reading Assignment for Day 2

## J. EMR Demo and Hands-on Learning Lab

### Day 2 – Saturday, May 14, 8:00 am to 5:00 pm

#### A. Learning Assessment on Day 1

#### B. Lean Sigma Healthcare -- A Model for Patient Safety, Satisfaction, and Efficiency

- What is Lean Six Sigma and its Application to Healthcare
- Understanding **Value** as the key driver of improvement
- Role of **Profit (or Margin)** in Healthcare sustainability
- Lean Six Sigma thinking
  1. **Focus on Process not People**
  2. **Kano Model** of customer satisfaction
  3. **Time** as the “vital sign” of process health
  4. **Value Stream** process mapping
  5. **Root Cause** analysis and the “5 Whys”
  6. “8 Wastes” view of the process
  7. **Building and Testing** Improved Value Stream
  8. **Controlling** the process

#### C. Group Workshop and Presentations – Value Stream Mapping a Process

#### D. Managing Improvement Projects

- *DMAIC Methodology*
- *Leadership*
- *Project Definition and “SMART” Goals*
- *Keys to Team Selection and Management*
- *Stakeholder Participation*
- *Tollgate Reviews*

#### E. Group Workshop and Presentations—Developing a Project Charter

#### F. Getting to Root Cause – Fishbone Diagrams

#### G. Group Workshop – Develop a Fishbone Diagram

#### H. Group Presentation – Fishbone Diagrams

## I. Reading Assignment for Day 3

### Day 3 – Sunday, May 15, 8:00 am to 4:00 pm

#### A. Learning Assessment on Day 2 Material

**B. DMAIC Group Working Session**

**C. DMAIC Group Working Session**

**D. Achieving Meaningful Use -Getting the Process Right**

- *Theory of Constraints* - Most Expensive Resource (Physician) as the Bottleneck
- *Assigning Correct Roles for EMR data entry*
- Reporting and Analysis
- Structured Data vs. Free Text
- OTIFNE Data
- Reporting the data
- *EMR Selection from a Process View*

**E. Getting Meaningful Data out of the EMR**

- Collection of Useful Data
- Data Presentation to Aid in Project Selection
- Data Reporting

**G. Learning Assessment and Evaluation**

**3. Post Course Assessment and Certification**

- Following the course students will have the opportunity to take a test to Certify as a Lean Sigma Healthcare Yellow Belt.
- At additional cost, participants may sign up for mentoring by a Lean Six Sigma Master Black Belt on Lean Sigma Healthcare projects of their choice. After completion of one successful project, participants may certify as a Lean Sigma Healthcare Green Belt and after completion of two successful projects, additional self study on several topics not included in the primary training, and passing a Certification Exam participants will be granted a Lean Sigma Healthcare Black Belt Certification.
- Although this training has been designed to match several sections of the ONC HIT Certification Exam, which will be available later in 2011 or in 2012, completing this certification will require significant additional self- or guided-study. SigmaMed Solutions does not provide this additional training, but can connect students with officially designated trainers.