Drive Quality:
Get the Skinny on Lean

Saturday, May 30 | 1:15 pm – 2:45 pm

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http://siim.org/?page=15drive_quality
Are you pursuing Six Sigma and what does the Sigma level mean to you?

**Sigma 2**
308,537 *DPMO or 69.1% meeting goal

**Sigma 3**
66,807 DPMO or 93.3% meeting goal

**Sigma 4**
6,210 DPMO or 99.4% meeting goal

**Sigma 5**
233 DPMO or 99.98% meeting goal

**Sigma 6**
3.4 DPMO or 99.99966% meeting goal

(*DPMO = Defects per Million Opportunities)

Where do you want to be?
WORM PIIT

Waiting
- Waiting for service or information

Overservicing
- Perform services that are not needed, being overstaffed, or being overcapacity

Rework
- Re-doing a process or duplicative processes

Motion
- Any motion of the worker or patient that does not add value

Processing
- Over processing (too many meetings/approvals, too much storage, too few or too many resources to perform services)

Inventory
- Stocking more than necessary to get the job done

Intellect
- Failure to use the time and talent of people

Transportation
- Unnecessary transport of patients, equipment, materials, etc.
Change Management – the forgotten silver bullet

- Leadership must be on-board
  - Leadership must lead
- Vision must be made known
  - Compelling
- Team – no single person can implement an enterprise change
  - Engage department informal leaders
- Follow of formal plan such as ADKAR or Kotter’s model to help you through

- Process Capability – You need to be aware if the report is showing long term or short term capability. There is more variation in long term than short.
  - (Short term Sigma – 1.5 = Long term Sigma)
Value Stream Mapping and Process Flow Tools Current State (Done in the Measure Phase)

- These are visual documents to help better understand the current state
- They help us to start defining the critical Xs – remember the Xs define underlying problems
- Y is a function of X or in medical terms Y is the symptom caused by the X disease or root cause

Some Lean Tools to help determine Value added vs Non-Value added (Waste):

- SIPOC-R – High Level
- Value Stream Map – More detailed steps, includes timing
- Spaghetti Map – Shows movement
- Time Value Map – Cycle times
Listen to the VOC (Voice of the customer) and translate it to CTQ (Critical to Quality)

**VOC:** I hate coming to your facility.

**Translation:** I wait too long to have my tests done.

**CTQ:** 10 min lead time to have patient in for scanning.

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**Data collection and Data Types and Data collection**

What does it matter?

**Continuous** – Preferred type. There are indefinite increments such as time, temperature, or cost. You can get more usable information from this type of data.

**Attribute** – Binary data - it can only be one of two results: Yes/No, On/Off, or Pass/Fail. Counts - such as number of errors. Nominal – names or labels, such as X-ray room 1, X-ray room 2. Ordinal – data arranged in rating scale, such as Always, Sometimes, Hardly ever, Never.

Don’t forget to capture baseline data so you know how much better you are doing.
5S Event

- **Seiri (Sort)** – Sort items in the work area (Gemba) into three piles:
  Used frequently, used less than once every 6 months, hardly ever or never (tag these with red tags and see if there are any protesters)
  - The “less used” items will find a home outside the direct work area.
  - The “hardly ever or never” will either be moved out of the area to an appropriate long term storage area or into the garbage.

- **Seiton (Straighten)** – This is for the frequently used items that will stay in the work area. Become OCD for this. Label and categorize all items so they have a home and can be easily inventoried. (If you have cabinets it can be a good idea to remove doors so items inside can easily be seen – this also can promote tidiness as everything is open to view and can’t be hidden behind closed doors)

- **Seiso (Shine)** – Clean the work environment including: machines, floors, walls, cabinets, etc. Cleaning is also checking to make sure everything is in working order.

- **Seiketsu (Systematize)** – Keep one’s self clean and use appropriate safety apparel or equipment. This can also mean revisiting the previous three steps on a predetermined time frame.

- **Shitsuke (Standardize)** – Self-discipline. This means to continue the 5S on a daily basis as part of your work routine. Make sure things are in there place, no clutter or unnecessary items in your work area, work area is clean so you can make sure everything is in working order or if inventory needs to be replenished.
“Kopius” Kaizens

Inspired from a talk given by Joseph Schwartz

• Empower employees to fix things on their own, in their practice or work area

• Leaders show how to initially show how to implement and how to fail so team members are not afraid to try for fear of failure.

• See – Talk – Apply – Record – Share (STARS)
  
  o **See** something that is an opportunity for improvement

  o **Talk** about the opportunity and your ideas for improvement with your direct supervisor or manager

  o **Apply** ideas and implement your solution. (monitor for 7 days to see if successful)

  o **Record** and document your process formally

  o **Share** your wins with other areas or departments; they may be able to benefit from your ideas
Acknowledgements


