# Agile
# Lean Six Sigma
# For Healthcare

Jay Arthur

**NAHQnext**
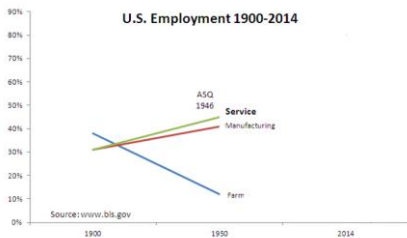The Leading Conference for the Healthcare Quality Profession
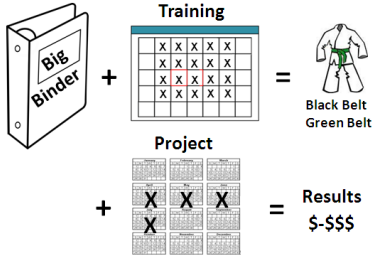
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## Learning Outcomes

- Learn the difference between Lean Six Sigma and Agile LSS.
- Discover tools and techniques to get your organization on board quickly.
- Learn to identify problem areas and root causes.
- Discover the 12 principles of Agile Lean Six Sigma.
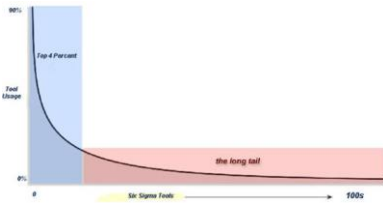- Learn to "hack" Lean Six Sigma to make it agile.

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## 20th Century Quality Improvement



U.S. Employment 1900-2014

ASQ 1946 — Service
Manufacturing
Farm

Source: www.bls.gov

## Traditional Lean Six Sigma



## The Long Tail of LSS Tools



Master the Top 4%

## 21th Century Quality Improvement
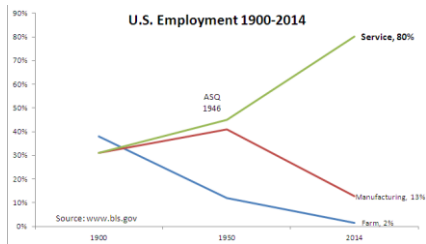
| Problems | Methods | Tools |
|---|---|---|
| Complicated Problems | DMAIC, DOE | Complex |
| **Uncomplicated Problems** | Focus Improve Sustain Honor | Data + 7 Key Tools |
| Simple Problems | Trial & Error | None |

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## Hacking Lean Six Sigma

*The spirit of hacking can be adapted and applied to general business management, not just technical innovation.*
Scott Brinker – Hacking Marketing

## Hacking Lean

**WHERE DO I START?**

**SHRINK THE ARROWS**
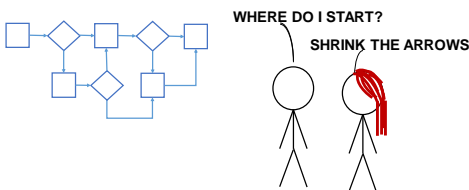
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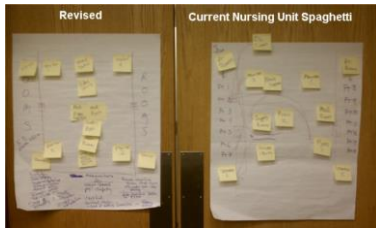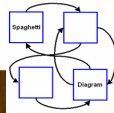## Value Stream Mapping





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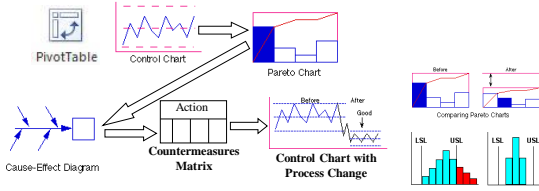
## Spaghetti Diagramming
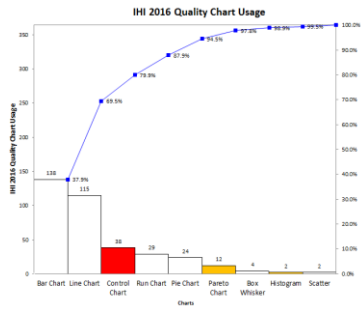


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## Nursing Unit Spaghetti Diagram
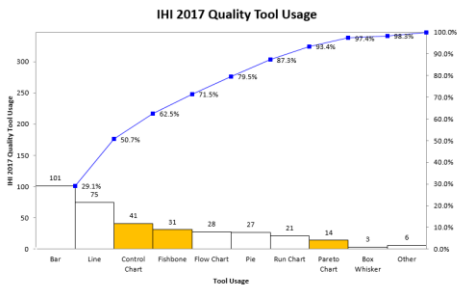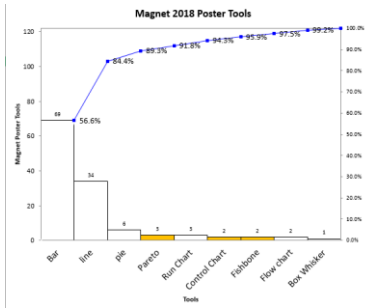


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## Hacking Six Sigma



Make Sure Your Story Uses the Magnificent Seven Tools

Magnet 2018 Poster Tools



Line Graph

IS THAT GOOD OR BAD?

I DON'T KNOW

Bar Chart

IS THAT GOOD OR BAD?

I DON'T KNOW

Comparing Control Charts

Before | After

STABLE AND CAPABLE!



**Most Data Is Overcooked**

Go on a Raw Diet!

## Why Raw Data?



**Because Summarized Data
Has Little Nutritional Value**

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## If You Have Data Like This…

## If You Have Data Like This…

| Date and time pressure injury was first documented | Unit where pressure injury was first documented… | Time between admission and pressure injury | Location of pressure injury… | Initial stage documented… Name |
|---|---|---|---|---|
| 10/3/2015 13:23 | Restore Care Me | 10027 | Coccyx | Stage II |
| 10/9/2015 20:17 | Restore Care Me | 511 | Coccyx | Stage II |
| 10/11/2015 9:37 | ABC | 365572 | Other | Stage II |
| 10/12/2015 9:59 | ABC | 244542 | Other | Stage II |
| 10/13/2015 17:45 | ICU | 368940 | Ischial Tuberosity | Stage II |

# You Could Eliminate Pressure Injuries

## Data Mining Wizardry



Raw Data

Pivot Tables

Counted & Categorized Data

Insights For Action

Select the Right Charts

## Focus on Performance

Start with a control chart of defects, mistakes, errors or costs:



Charges Coded as Denials

## Go Deeper –
## Apply the 4-50 Rule



4% of the Process Results in over 50% of the Errors

## Use Paretos to Find What to Fix



## Use Paretos to Find What to Fix



64% of Denied Due to Timely Filing Claims Due to one Insurer

## Identify Root Causes

Use the fishbone diagram to perform root cause analysis:

**Medical Necessity**

**ER**

In Patient

No Auth

Problem Statement

Timely Filing 64% of Denials

One Payor accounted for 64%

Reauthorization

**Payor**

**Psych**
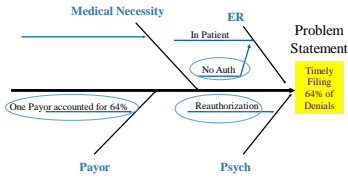
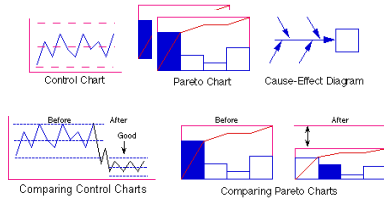## Countermeasures
### (Mistake Proofing)

- Countermeasure
  – Work with insurance company to resolve excessive denials
  – Reduce delays that contribute to timely filling denials

## Verify Results

Charges Codes as Denials
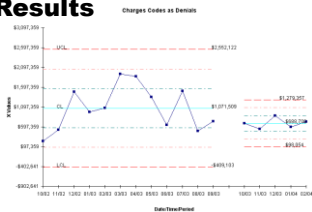
Reduced denials by 35% starting the following Monday ($380,000/month)

## Kick-Butt Improvement Posters



*85% of C-suite executives say their company struggles with problem diagnosis, not problem solving, and that this comes with a significant cost.*
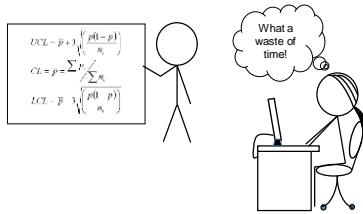
January-February 2017 HBR

Six Sigma is *too complex and time-consuming to fit into a regular workday. We need tools that don't require the entire organization to undergo weeks-long training programs.*
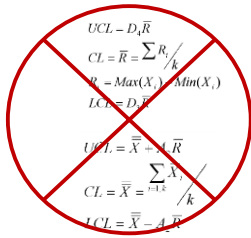Thomas Wedell-Wedellsborg
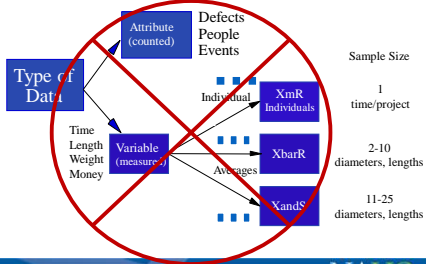
January-February 2017 HBR
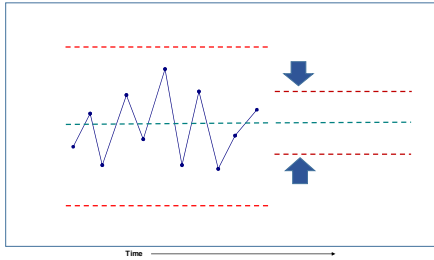
## Hacking Six Sigma Training
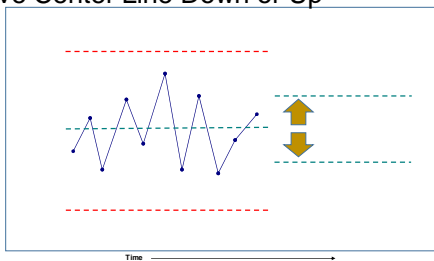


## You Don't Need to Learn Formulas



## You Don't Need to Learn Decision Trees

## Learn the Patterns – Reduce Variation



## Move Center Line Down or Up
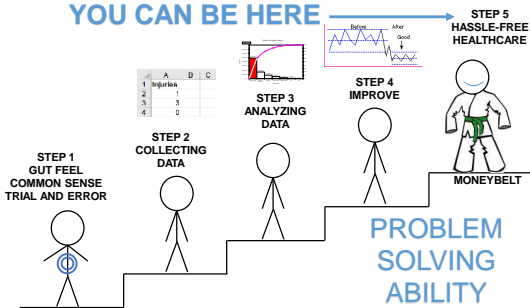


## Agile Lean Six Sigma

## Why Pivot Now?

WHY DO WE NEED TO CHANGE SIX SIGMA?

TO AVOID EXTINCTION

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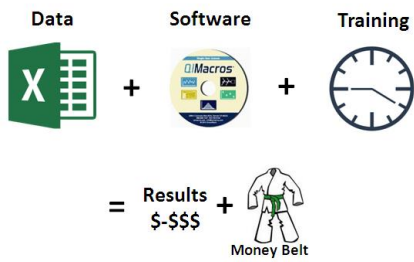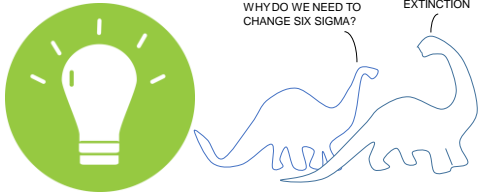
## Agile Lean Six Sigma

| Traditional | Agile |
|---|---|
| • Big Implementations | • Small Agile Teams |
| • Rigid processes | • Agile |
| • Maintaining the status quo | • Accelerating speed and adaptability |
| • Big projects | • Laser-focused, data-driven projects |
| • Silos | • Engagement |
| • Complexity | • Simplicity |

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YOU CAN BE HERE

STEP 5
HASSLE-FREE
HEALTHCARE

STEP 4
IMPROVE

STEP 3
ANALYZING
DATA

STEP 2
COLLECTING
DATA

STEP 1
GUT FEEL
COMMON SENSE
TRIAL AND ERROR

MONEYBELT

PROBLEM SOLVING ABILITY

## Key Takeaways

➥ Lean Six Sigma Can Be Fast and Fun!
➥ Hack Lean By Eliminating the Arrows
➥ Hack Six Sigma By Using Software and the Magnificent Seven Tools

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Questions

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## QI Macros – Affordable Tools for the Statistically Challenged

**KnowWare International Inc.**
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**Denver, CO 80222**
**303-756-9144 888-468-1537**
**www.qimacros.com**
**jay@qimacros.com**

Thank you!

**qimacros.com/pdf/Agile-Lean-Six-Sigma.pdf**
**www.lssyb.com**

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**References
& Resources**

LEAN SIX
SIGMA
FOR HOSPITALS
IMPROVING QUALITY AND
THE BOTTOM LINE

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