

LEHIGH VALLEY HEALTH NETWORK

How am I Doing? Data Output Affects Real-Time Operations

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How can I be drowning in information but thirst for knowledge?

The Medical Record Dilemma

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The 5 P “Equilibrium”

- Philosophy – aka “Culture”
- Purpose – explicit and implicit
- Process
- Personnel
- Physical
- Persistence

How am I doing?

- The optimist: I am the best!
- The pessimist: I am the worst – I can't believe I missed that
- The blind: No news is good news
- The unmotivated: If it ain't broke don't fix it.
- The enlightened: Show me what I can improve!

Perplexing Patient Complaints

- New ED
- Brand new beautiful waiting room with 3 triage rooms and a reception desk
- Anecdotal complaints of delays in the waiting haven't gone down
- Average time to triage 12 minutes.

Grasshopper: What knowledge do you seek?

- Lack of focus creates most of the problem
- Specialty focus creates the rest – silos
- What are you trying to do?
 - What is success?
 - What is failure?
 - Who defines each?
- What is your Key Performance Indicator (KPI)?
 - Define data subset
 - Can vary from time to time depending on above
 - Max of 3 to be useful

Collecting Data the “How”

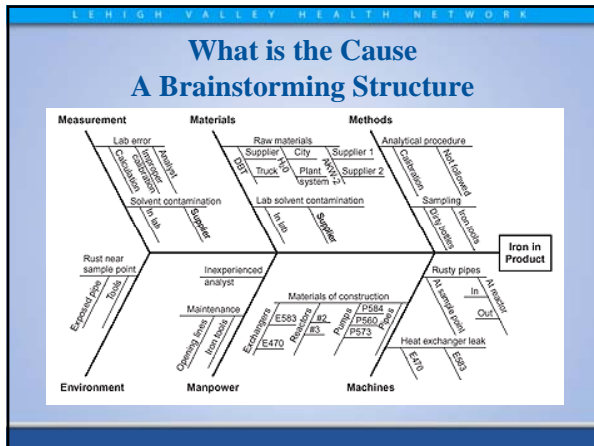
- KPI
- Start on paper
 - Low tech may be the best way for interventions
 - Trial of different formats
 - Helps define data sources and difficulty
- Organize by data source
- Link by a unique number

Monitor or Move?

- Monitoring a KPI move right to measurement.
 - Determine “Common Cause Variation”
- Moving a KPI requires an intervention to create a “special cause variation.”
 - All interventions cause desired and undesired effects
 - Shadow systems
 - Commission vs. omission impact?

Timing?

- Prospective
- Concurrent
- Retrospective



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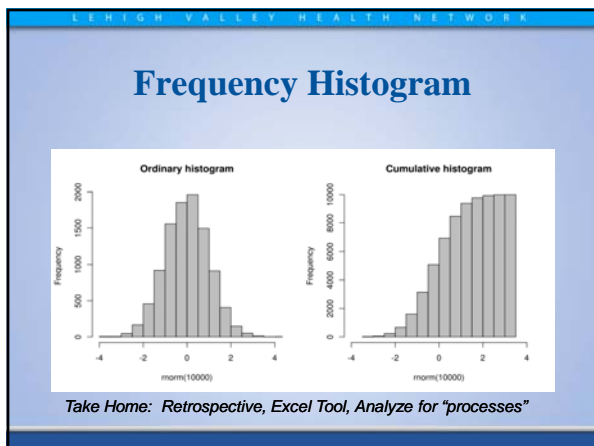
Check Sheet

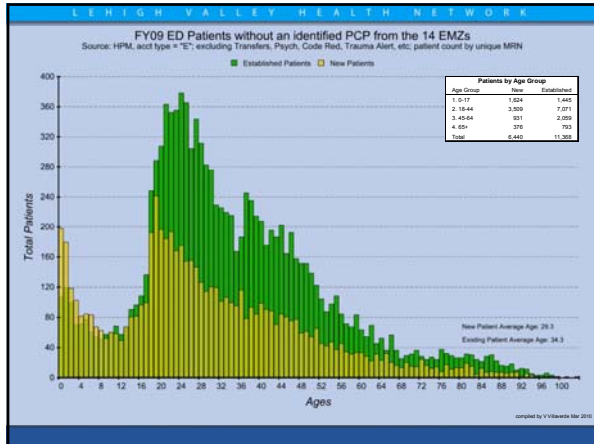
Paint Job Quality Control Checklist

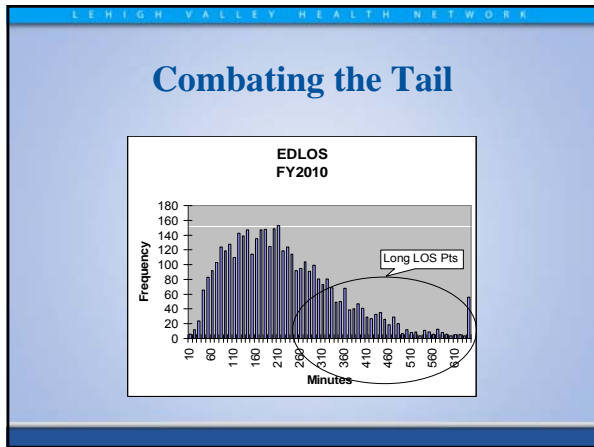
Job: 629555
Inspector: Al Kyder

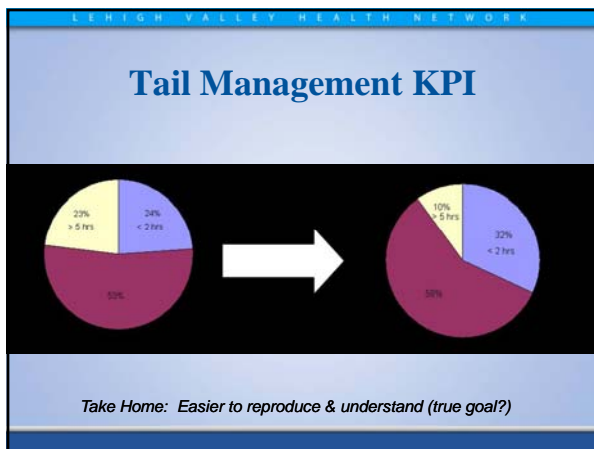
Problem	Frequency
Chip	
Bubble	
Rin	
Scrape or scratch	
Inadequate coverage	
Other	

Take Home: Low Tech, first step, & great for concurrent PI

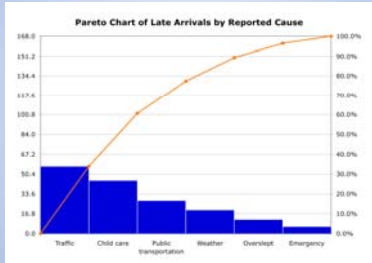






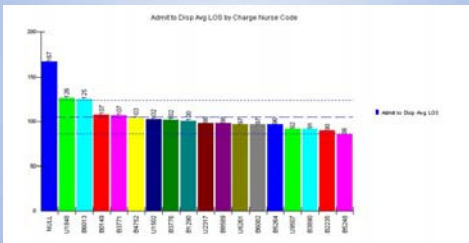


Pareto Chart – 80/20 Principle

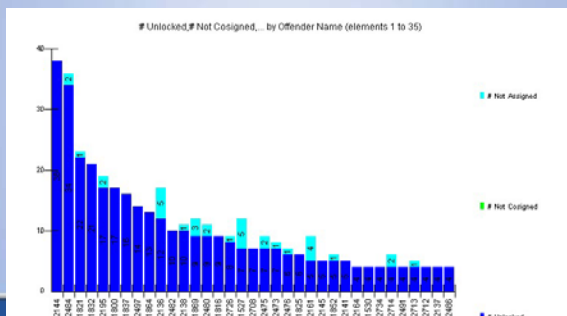


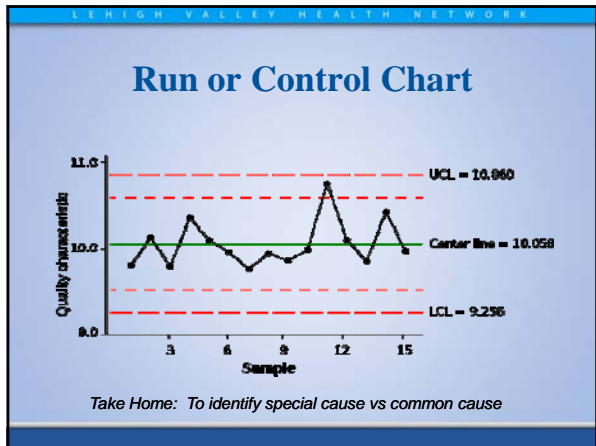
Take Home: Determine the vital few to work on incrementally

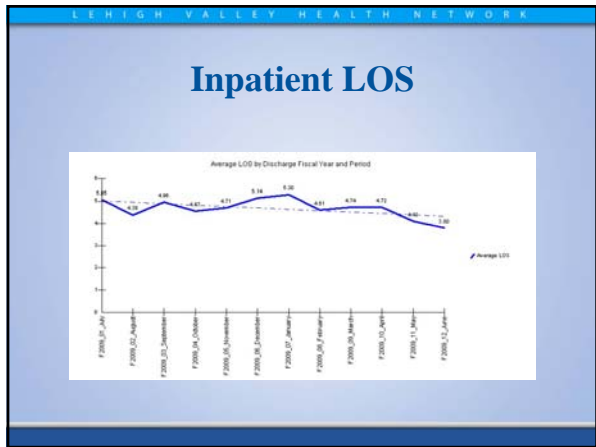
Charge Nurse LOS

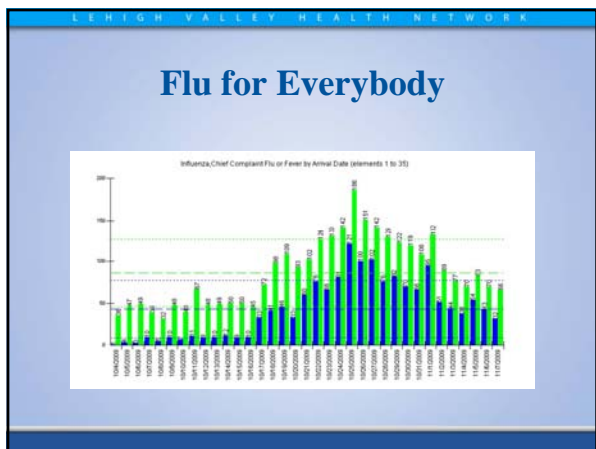


Unlocked EMR









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Flow Chart

- Sequential Processing
- Personnel Flow – “Swim Lanes”
- Current process first
 - Decision Boxes
 - Honest & real
 - Remove them all!

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```

    graph LR
      1[Suspect Abdominal Aortic Emergency] --> 2[Perform Bedside Ultrasound]
      2 --> 3a[AAA Imaged Call Vascular Surge (VVS)]
      2 --> 3b[Unable to Image Aorta]
      3b --> 4[CT if Stable VS if Unstable]
  
```

Take Home: Use for analyzing, process then designing & distributing protocols

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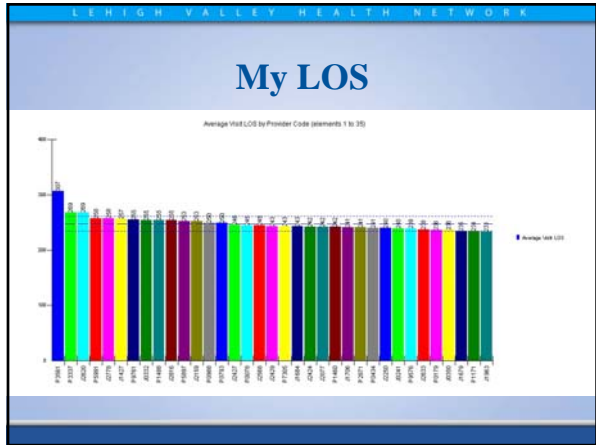
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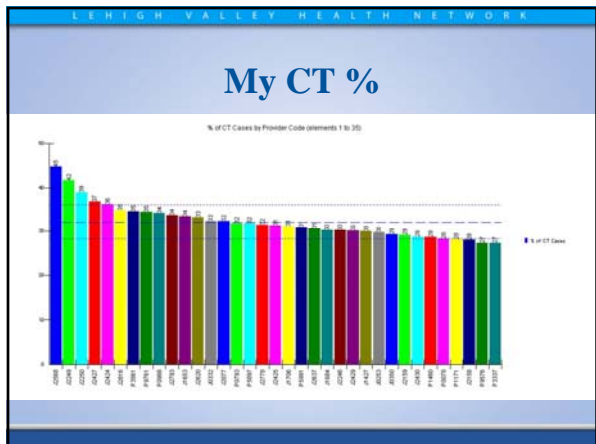
    graph LR
      CA[Cardiac Arrest] --> PU[Perform Bedside Ultrasound]
      PU --> CT[Cardiac Taponade]
      PU --> NCA[No Cardiac Activity]
      PU --> DRH[Dilated Right Heart]
      PU --> VF[Ventricular Fibrillation]
      PU --> PC[Poor Contractility]
      PU --> PV[Poor Volume Within Ventricles]
      CT --> PC1[Pericardiocentesis]
      NCA --> CACLS[Continue ACLS Repeat Exam q10 minutes]
      DRH --> QM[Question Massive Pulmonary Embolus]
      VF --> CACLS2[Continue ACLS]
      PC --> CR[Consider Inotropics]
      PV --> VR[Volume Respletion]
  
```

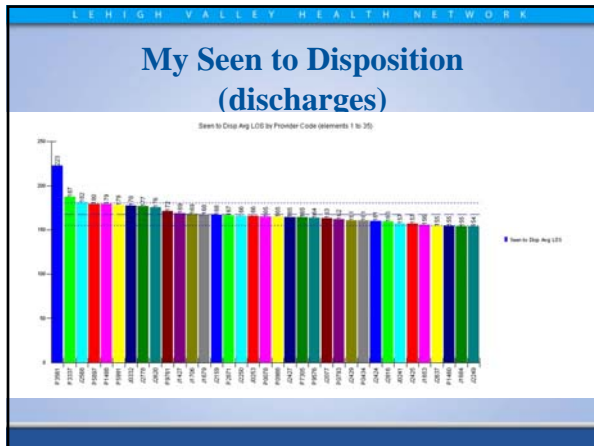
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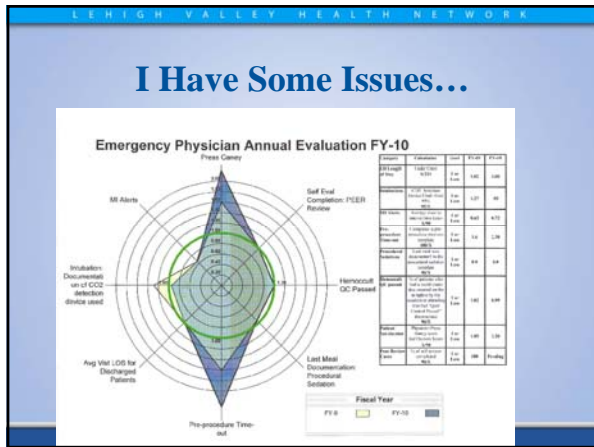
How am I doing?

- With my LOS
- With my chart locking
- With...









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Perplexing Patient Complaints

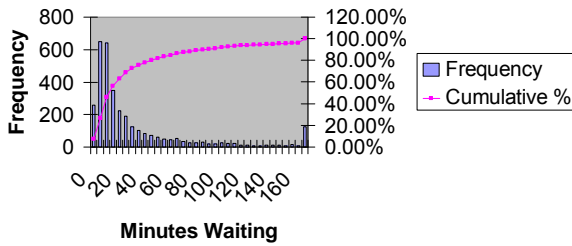
- New ED
- Brand new beautiful waiting room with 3 triage rooms and a reception desk
- Anecdotally complaints of delays in the waiting haven't gone down
- Average time to triage 12 minutes.
- What are they complaining about we see them fast...

Delay in Triage Complaints

- Cause and Effect
- Averages are good...
- New physical space
 - What changes did it create
- New process?
- What is purpose?

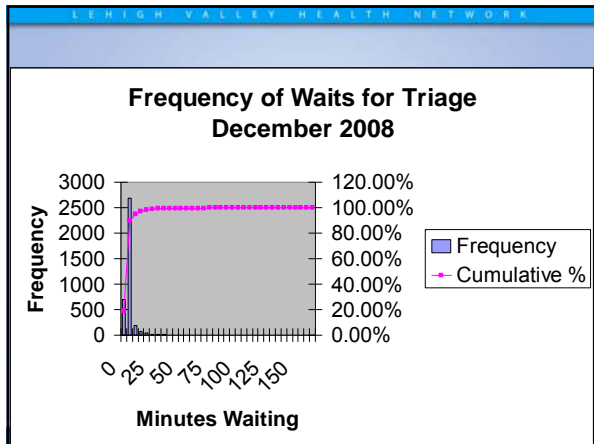
Data Analysis

Frequency of Waits for Triage
December 2007



Myth – BUSTED!

- Purpose not aligned
- Metric not aligned
- Process not aligned
- Physical space change highlighted



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Take This Home!

- Pick and focus on a KPI
- Low Tech is best tech ... initially
- Intervene with understanding
- Right graph for right purpose
