

# The Technician's Side of Lean Healthcare

# Your Presenters

- Jack DelloStritto, CBET
  - Radiology Tech I
  - WakeMed Health & Hospitals
  - Raleigh, NC
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  - Manager, Clinical Engineering
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**THROUGH THE LENS OF  
LEAN HEALTHCARE**

**MANAGEMENT  
TECHNICIAN**

**Dallas Sutton**

**MD Expo, April 2018**

# Objectives

- Discuss the application of Lean principles in the Healthcare Service Environment
- How does it apply to Clinical Engineering
- What it means to the **TECHNICIAN**

# Food for Thought

- What is your current completed PM %?
- How many outstanding CNL's, or "Cannot Locates", do you have?
- To take it a step further, what's the VALUE of those CNL's? How does that affect capital?
- How long do your vendors take to turn around repairs?
- How does this apply to Lean Healthcare?

# What is “Lean Healthcare”?

- Lean
  - To increase efficiency and productivity by reducing/eliminating waste
- $6\sigma$ 
  - Eliminating defects/variation by improving processes (quality, data, etc.)
- Taiichi Ohno
  - Toyota Production System



# Why “Lean?”

- We went down the road of:
  - Not knowing CNL's
  - Large vendor turnaround times
  - PM's overflowing into next month
  - Equipment being out of service for  $> 7$  days
  - Repeat calls
  - No trends

# Lean in Clinical Engineering

- Service Delivery Model
  - Best way to control workflow
- Inventory → Production Line → Product
  - Unscheduled/PM → Technician → Closed WO's
- Data Tracking (Reporting)
  - Parts, Labor, PM progression, Open WO's, CNLs, Vendor turnaround

# Traditional Delivery Models

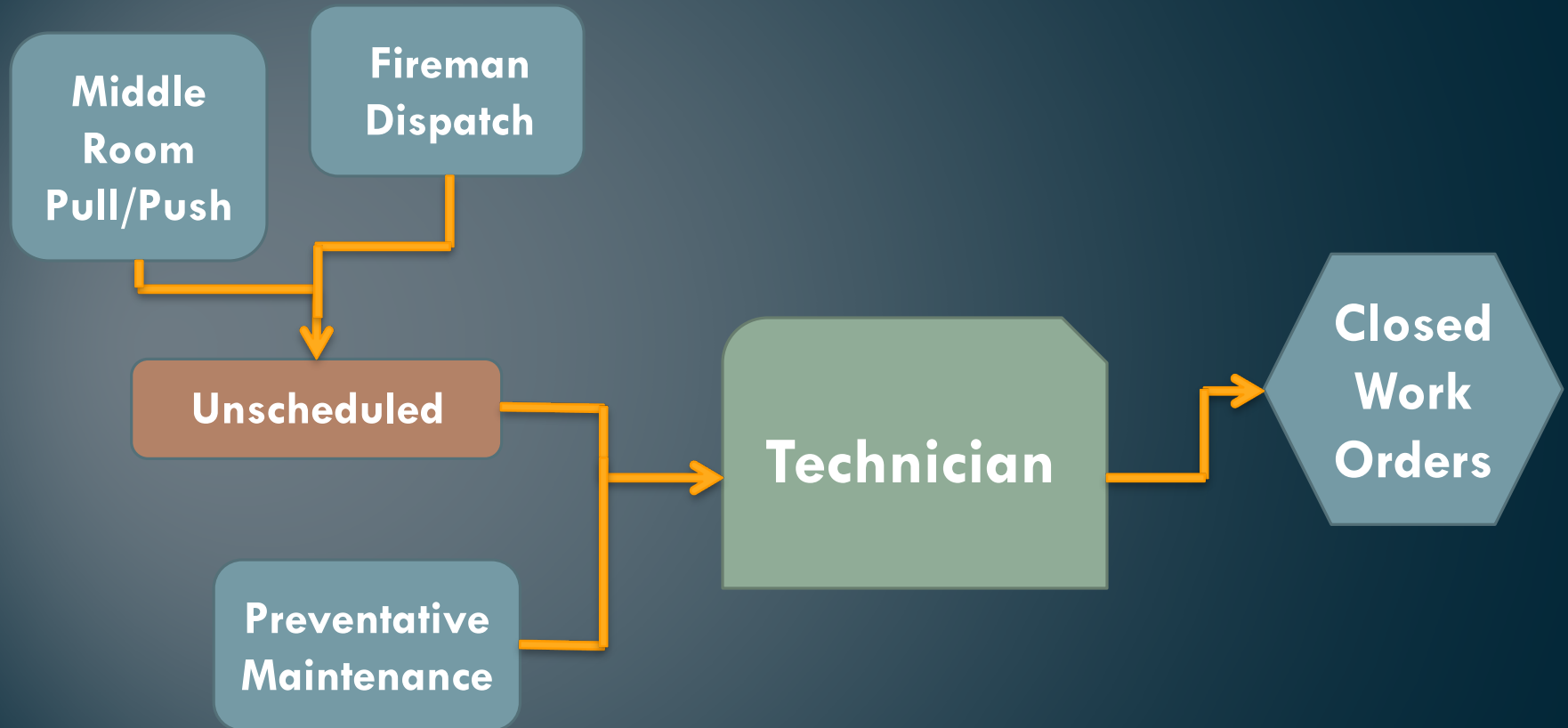
- Department Model
  - Hospital broken into departments and assigned to techs based on expertise, preference, bad luck
- PM Crew/Unscheduled Crew
  - The workload is divided between a split shop with a portion working PMs and another working unscheduled calls, switching periodically
- Jack of all Trades
  - Techs take what comes down the pipe, both scheduled and unscheduled

# Lean Delivery Model

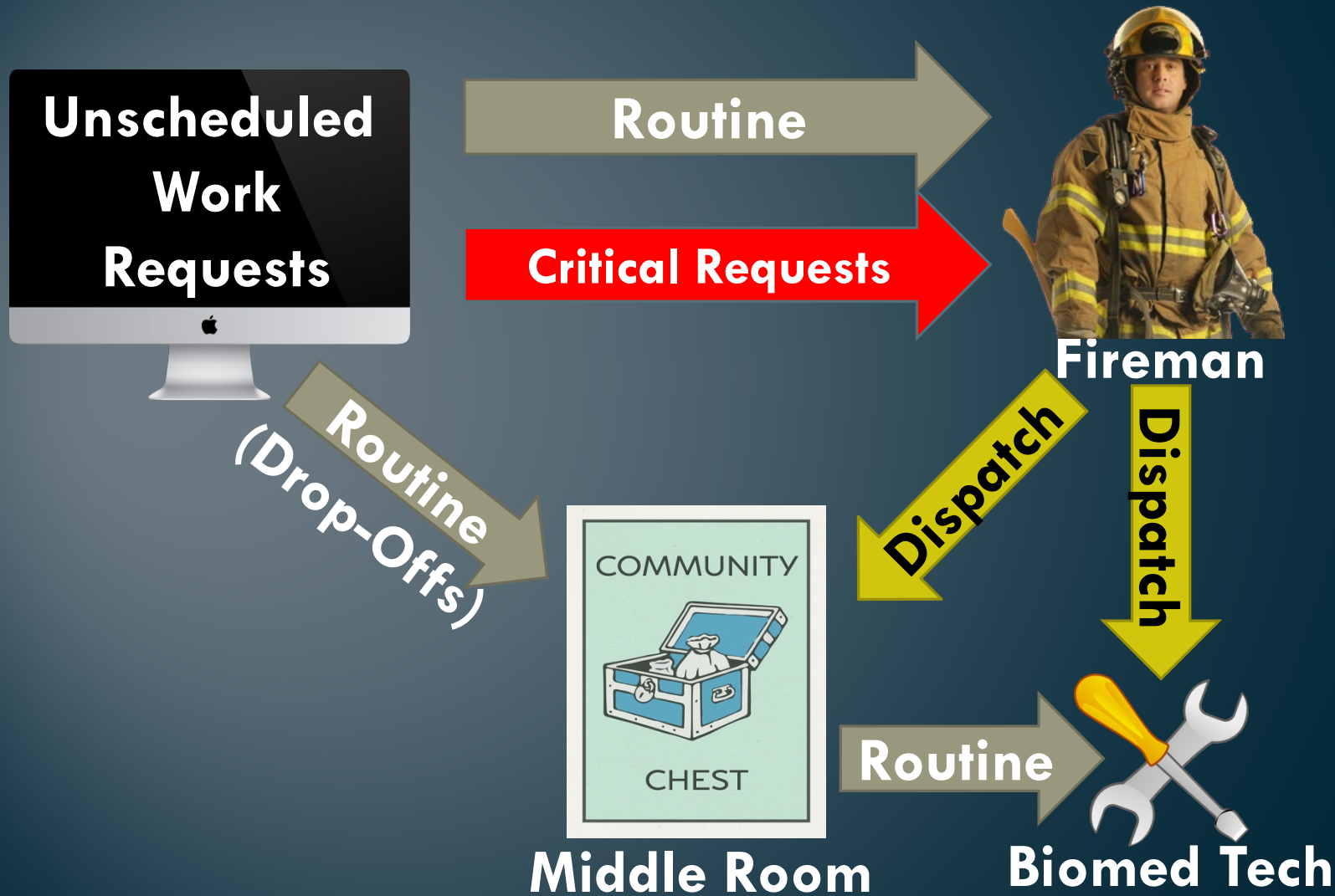
- Everyone does everything
  - PMs & unscheduled work
  - PM's divided by time instead of department/quantity (equal labor time, 40-60 hours per tech) ★
- Fireman
  - One tech assigned to respond/manage all unscheduled calls (daily)
  - Has ability to dispatch calls to other techs if needed ★
- “Middle Room”
  - Designated location where unscheduled repairs await service



# Clinical Engineering Production



# Unscheduled Work Flow



# Lean in Clinical Engineering

- Utilization of Data:
  - Transparent
  - Daily/Weekly
  - Production and Improvement boards

# Daily Huddles

- A place in which barriers to processes can be identified and eliminated
- Time, Location, Visuals
  - ~15 minutes (daily) and ~30 minutes (once a week), production/improvement boards, metrics
- “Red/Green” – Techs report on their individual work
- Barriers/Solutions
- Information
- Ideas



# Daily Reporting

- Overtime hours
- Cannot Locates (CNLs)
  - Searched three times, engaged staff
- Total Assets
- PM Progression
  - ~5% per day
- Work over 7/14 days
  - Capital Equipment Impact, rentals, revenue, patient impact
- Genba hours
  - Face time with customer
  - Rounding
- Middle room





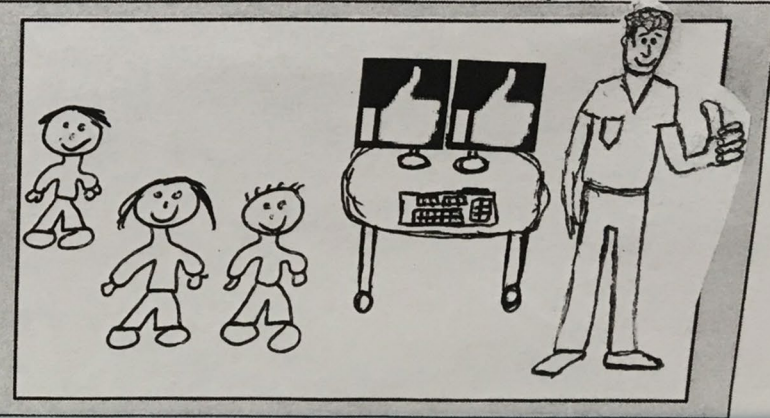
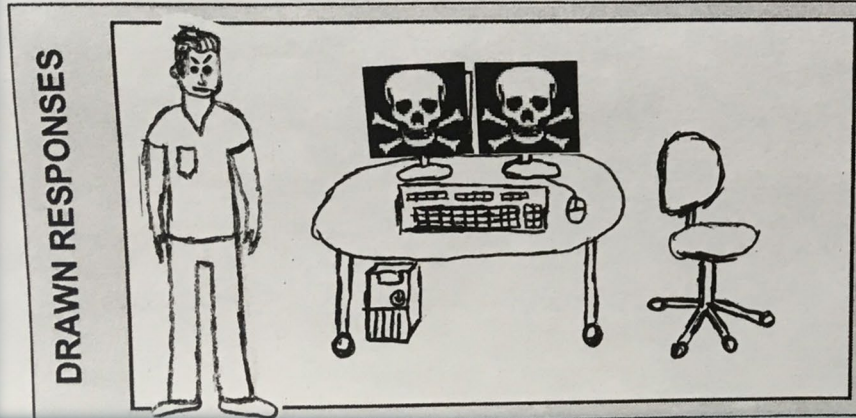
# IMPROVEMENT IDEA

Name: Adam Charles  
 Jared Zimmel  
 Date: 1/2/18

| WRITTEN RESPONSES | Employee / Area | Problem Description | Improvement Idea   | Expected Results   |
|-------------------|-----------------|---------------------|--|--|
|                   |                 | Cath Lab            | configuration required after replacing Hard Drives in MacLab | Notify IS + Cath Lab staff prior to placing MacLab in room |

Picture of Situation Before Improvement

Picture of Situation After Improvement



# Weekly Reporting

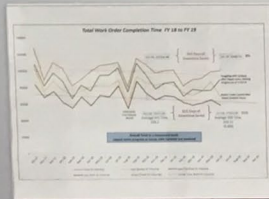
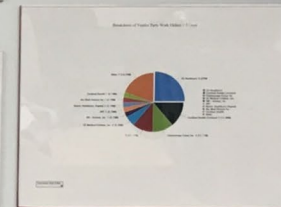
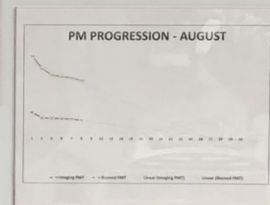
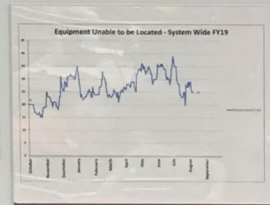
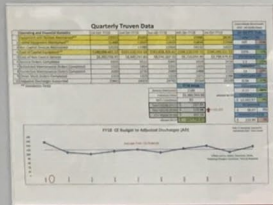
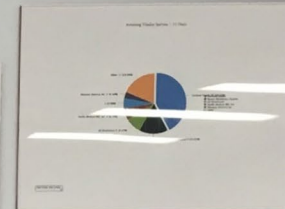
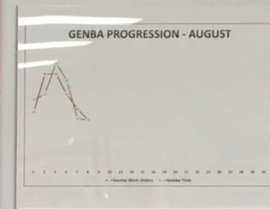
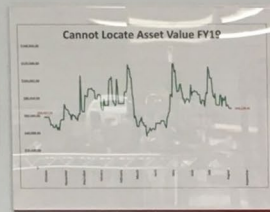
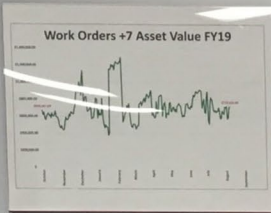
- Trends
  - CNLs (Capital impact, safety, liability)
  - Assets (capital equipment, devices per bed etc.)
  - Vendor turnaround time on parts and repairs



# Improvement board

WakeWay<sup>2</sup> Excellence

WakeMed



WakeMed Strategic Plan

OPERATIONAL GOALS

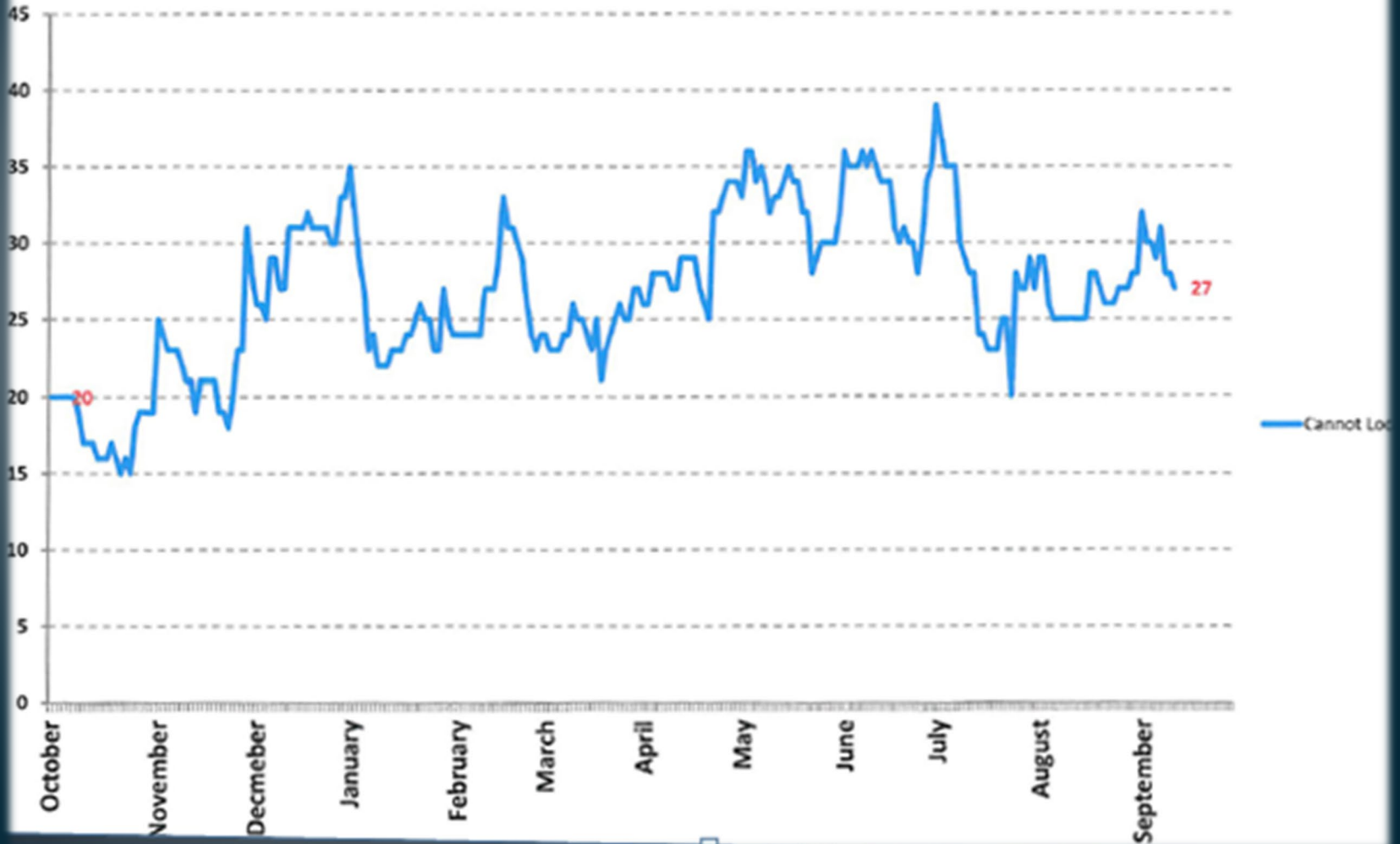
IMPROVEMENT IDEA

| Author | Project Name | Project Description | Project Status | Project Impact |
|--------|--------------|---------------------|----------------|----------------|
|        |              |                     |                |                |
|        |              |                     |                |                |

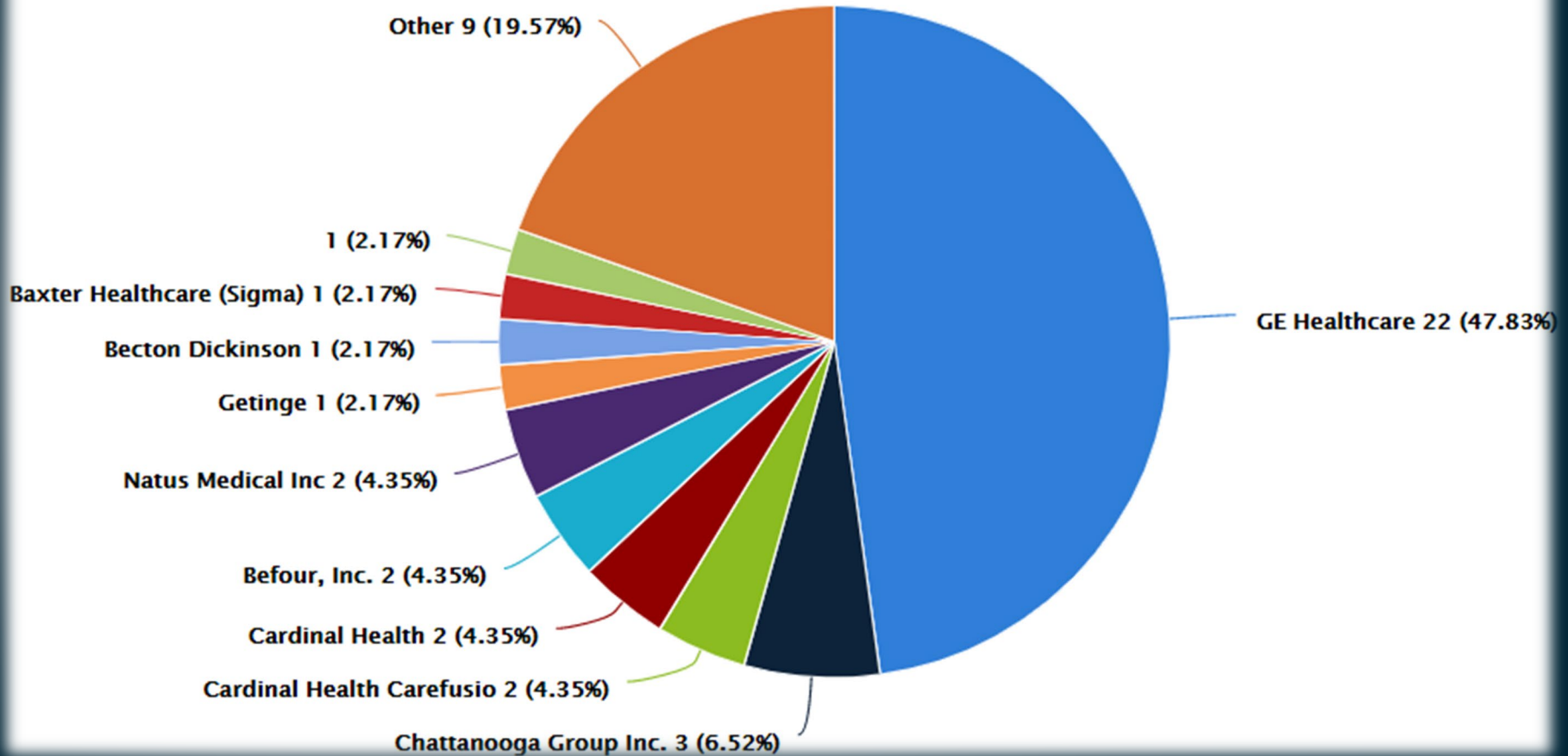
Exceptional People. Exceptional Care.

# Cannot Locates

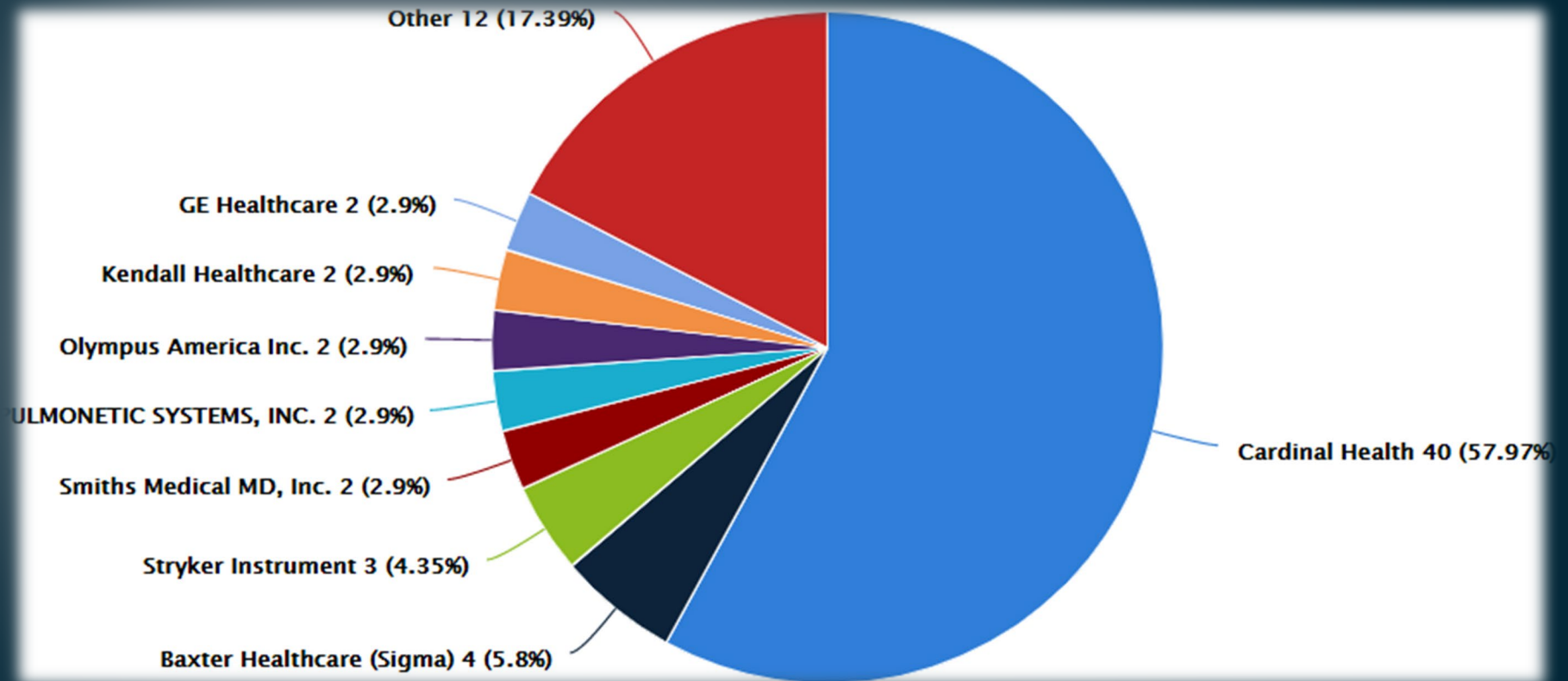
## Equipment Unable to be Located - System Wide FY19



# Vendor Parts >15 days



# Vendor Service > 15 days



# Why?

- Transparency
- Accountability
- Focus on goals
- Constant self-improvement
- Development of Standard Work + Lean Processes



# Closing

- “If you’re not measuring, you’re not succeeding.”
- Cannot change processes if you have no processes
- Communicate!
- Change Clinical Engineering from a “break/fix” department to a department that engineers solutions
- “Perfection is not the enemy of the day”



Questions?