



# **Tools, Techniques, and Best Practices in the Emergency Room**

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# Agenda

- Background
- Tools, techniques, and best practices
  - Benchmarking
  - LPT/LPMSE calculator
  - ER staffing model
  - Simulation
  - Cross training registration staff
  - Visual cueing
  - Rapid medical exam
- Keys to success and lessons learned

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## Key points:

- Frame how our presentation will work---that we will show tools used in projects, not presenting a project from start to finish
- We use data to solve problems
- Tie to our abstract -

## Objectives:

- To learn about tools utilized in ED process improvement projects
- To understand the pitfalls and keys to success
- To become familiar with ED best practices

# HCA

170 hospitals  
91 outpatient surgery centers  
100 free-standing and facility-based outpatient imaging centers  
21 states, England & Switzerland  
190,000 employees



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Other statistics:

- 3 groups, 16 divisions, 6 markets
- Mention that there is 1 Management Engineer per division with responsibilities for hospitals ranging between 8-15. Some divisions have associate MEs
- Headquartered in Nashville, formed in 1968
- Strategy:
  - Putting patients first: HCA works to constantly improve the care we give our patients, implementing measures that support our caregivers, help ensure patients' safety and provide the highest possible quality
  - Investing in our communities: HCA presently plans to invest more than \$1 billion per year to keep our hospitals modern and up-to-date technologically
  - Focusing on leading hospitals in core communities: HCA focuses on communities where the company is a leading healthcare provider
  - Improving local operations through efficient use of resources: HCA employs industry leading measures that enhance the performance of the company's local facilities, including organized group purchasing, efficient supply acquisition and distribution, shared admin & business services,
  - Building strong physician relationships: HCA values strong relationships with local physicians, working to provide them a wide array of services and modern facilities in order to help them deliver the best possible care.

## State of Emergency



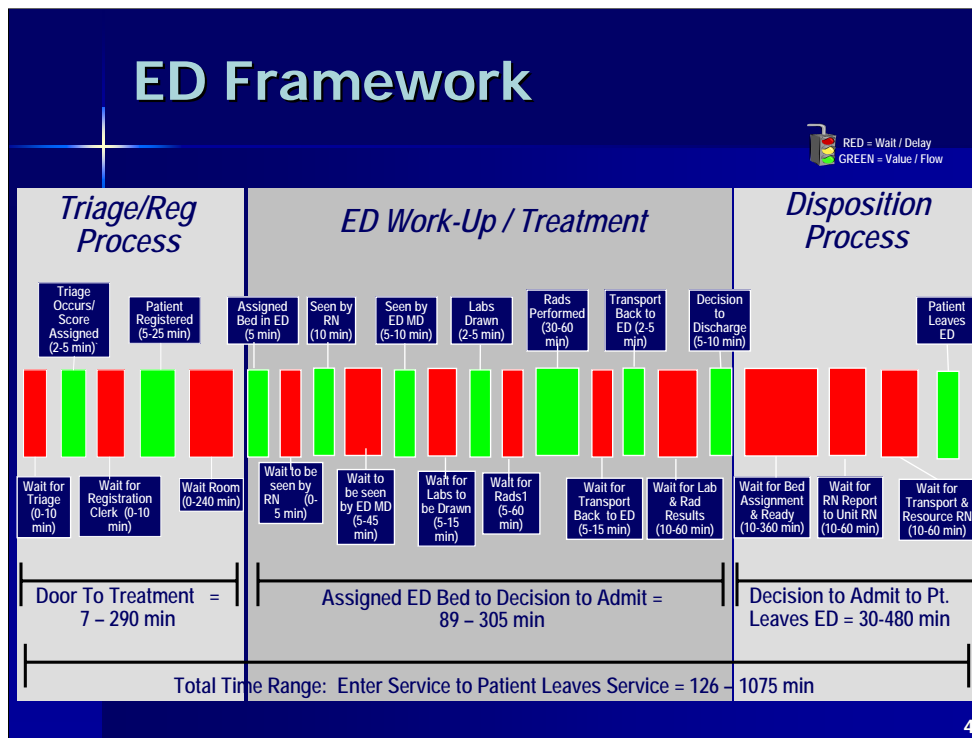
- In the past decade...
  - Emergency room visits up 20% 89.8M to 110M
  - The number of EDs down 15%
  - Time to treatment up 32% to 67.7 minutes
  - 54% of visits are non-urgent or semi-urgent

...which has led to increasing numbers of patients visiting the ED

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What caused these changes:

- Uninsured use ED because they can't get routine care
- Doctor's offices are closed during peak ED hours
- Hospital closures and consolidations
- Reduced inpatient length of stay



Few patients perceive quality of care with regard to accuracy of diagnosis and treatment and therefore will judge quality on two things they do understand... ***How long they wait and how nice the nurses and doctors are to them and their families.***

**Key Points:**

- ED operations impact and are affected by the entire hospital system
- The Emergency Department (ED) is the “gateway” to the hospital--The ED is where most people have their first contact with the hospital and develop their first impressions of the organization

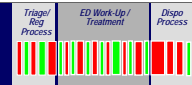
We’ll discuss some of our best practices using this framework:

- Front end processes of triage and registration
- ED work-up and treatment
- Disposition process

Red denotes a wait/delay and green denotes value/flow

- Total Time Range (Red + Green): 126 – 1075 minutes (2.1 hours – 17.9 hours)
- Wait/ Delay Time (Red): 1 – 16 hours
- Value/ Flow Time (Green): 1 – 2.25 hours

## Technique: Benchmarking

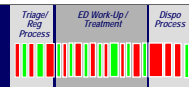


- Definition of benchmarking:

The practice of being humble enough to admit that someone else is better at something and being wise enough to try to learn how to surpass them at it.

International Benchmarking Clearing House

# What is Benchmarking?



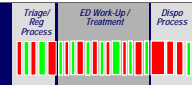
## Benchmarking **IS**:

- Continuous search for a better way of doing things
- Continuous process to improve productivity, operations, patient flow, quality, or cost
- Learning/discovery/improvement process
- Adaptive
- A planning process
- Collaborative
- Others' cost are 10% lower, what do they do differently

## Benchmarking **IS NOT**:

- One time program
- Cookbook process
- Copying others
- Strictly a cost reduction program
- Spying
- Others' cost are 10% lower, my costs should be 10% lower

# Benchmarking Process



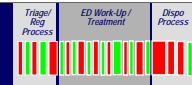
- To “benchmark” with other facilities, you need to first understand your own processes

## Goals of Process Improvement:

- Simplify and reduce hand-offs
- Eliminate waste and re-work
- Combine steps (wherever possible)
- Design process with alternate paths (do not force all processes to follow the same path)
- Reduce turnaround time



# Benchmarking: Key Question:

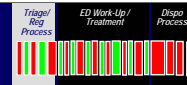


- If you had to suggest 3 – 5 things to change or improve, what would they be?

\*Not, "This is why I'm different..."

								TOTALS						
	Arrival To Greet	TOT Arrival To Leave	ADM Arrival To Leave	DCD Arrival To Leave	TOT Disp To Leave	ADM Disp To Leave	DCD Disp To Leave	Greet To Disp	Bed To Greet	LPMSE %	ADM %	Visits	LPMSE	Admits
Hospital 1	71	288	280	211	96	350	24	123	16	3.89%	21.27%	28,662	806	6,097
Hospital 2	64	213	281	196	29	61	21	123	28	3.13%	20.48%	29,373	291	6,016
Hospital 3	67	232	330	200	57	121	35	114	23	5.01%	24.80%	33,701	2,197	8,359
Hospital 4	97	248	330	218	54	105	33	107	42	7.93%	27.55%	27,395	470	7,548
Hospital 5	64	241	375	192	57	148	22	125	19	3.46%	26.61%	30,099	1,271	8,008
Hospital 6	53	203	277	180	58	107	40	97	13	2.77%	23.39%	29,363	35	6,869
Hospital 7	28	162	232	143	42	87	30	90	10	1.17%	20.88%	26,089	941	5,447
Hospital 8	66	211	319	183	50	132	29	95	26	1.69%	20.56%	33,462	405	6,879
Hospital 9	53	161	230	139	30	68	17	83	23	5.52%	23.81%	28,631	1,239	6,818
Hospital 10	103	324	567	260	67	237	28	147	31	4.12%	20.82%	30,575	648	6,367
Hospital 11	42	204	440	144	70	212	33	91	17	1.70%	20.12%	33,115	708	6,662
Hospital 12	58	218	405	171	72	216	34	95	27	2.46%	20.03%	28,374	249	5,682
<b>AVERAGE</b>	<b>64</b>	<b>226</b>	<b>364</b>	<b>186</b>	<b>57</b>	<b>154</b>	<b>29</b>	<b>108</b>	<b>23</b>	<b>3.57%</b>	<b>23.19%</b>	<b>29,768</b>	<b>772</b>	<b>6,729</b>

## Tool: LPMSE Financial Calculator



- Issues and observations:
  - 3% target was set for combined rates of Left Prior to Triage (LPT) and Left Prior to Medical Screening and Examination (LPMSE)
  - Hospitals across the company were not meeting this target
  - LPT/LPMSE rate was tied to quality and financial incentives
  - Patient satisfaction issues were on the increase

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Why a concern for LPMSE?

- Sentinel events
- Community not receiving proper care
- Lost revenue
- Patient satisfaction
- Threatens an ED public relations
- EMTALA

Statistics for LPMSE:

- 46% needed immediate medical attention
- 29% needed care within 24 to 48 hours
- 8% were hospitalized within 1 week

The quality incentive to reduce the LPT/LPMSE rate is to provide services to provide medical care to everyone that depends on the Emergency Department for care and do not want people to leave with an undiagnosed life-threatening illness.

Financially LPT/LPMSE is tied to financial incentives in two forms, one positive and one negative. The positive incentive is that LPT/LPMSE rates were tied to Premium Credit, which benefits the hospital with reduced insurance rates. The negative incentives take the form of potential lost revenue for the hospital and the physicians.

# Financial Impact: Hospital



At 30,000 annual visits:  
Reduction from 12% to 3% =  
\$2.2M increased revenue

LPT & LPMSE Rate	ED Annual Visits			
	25,000	30,000	55,000	60,000
0.5%	\$103,000	\$124,000	\$227,000	\$248,000
1.0%	\$206,000	\$248,000	\$454,000	\$496,000
2.0%	\$413,000	\$496,000	\$908,000	\$991,000
3.0%	\$619,000	\$743,000	\$1,363,000	\$1,487,000
5.0%	\$1,032,000	\$1,239,000	\$2,271,000	\$2,478,000
8.0%	\$1,652,000	\$1,982,000	\$3,634,000	\$3,964,000
10.0%	\$2,065,000	\$2,478,000	\$4,542,000	\$4,955,000
12.0%	\$2,478,000	\$2,973,000	\$5,451,000	\$5,946,000

### Assumptions<sup>1</sup>

300	Current LOS (in minutes)
\$487	Average ED Net Revenue per Visit
40.0%	Average Admission Rate from ED
\$6,778	National Average Revenue per Inpatient Admission from ED
5.0%	Expected Admission Rate for LWBS Patients
\$826	Average LOST Revenue per LPT & LPMSE

<sup>1</sup>Source: The Advisory Board, 2003 Data

# Financial Impact: Physicians



At 43,000 annual visits:  
Reduction from 12% to 3% =  
\$426K increased revenue

LPT & LPMSE Rate	ED Annual Visits			
	25,000	30,000	43,000	55,000
0.5%	\$14,000	\$17,000	\$24,000	\$30,000
1.0%	\$28,000	\$33,000	\$47,000	\$61,000
2.0%	\$55,000	\$66,000	\$95,000	\$121,000
3.0%	\$83,000	\$99,000	\$142,000	\$182,000
5.0%	\$138,000	\$165,000	\$237,000	\$303,000
8.0%	\$220,000	\$264,000	\$378,000	\$484,000
10.0%	\$275,000	\$330,000	\$473,000	\$605,000
12.0%	\$330,000	\$396,000	\$568,000	\$726,000

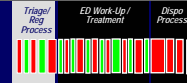
**Assumptions<sup>1</sup>**

- 300 Current LOS (in minutes)
- \$110 Average ED Physician Net Revenue per Visit

**Example:**

At an annual volume of 43,000 visits, if the LPT & LPMSE rate is reduced from 12% to 3%, then the additional net revenue for all physicians is approximately:  
\$426,000 (\$568k-\$142k) annually

## LPT/LPMSE: Calculator

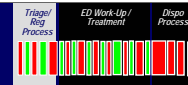


- Measuring and decreasing the LPT/LPMSE % required a measurement tool to breakdown the data
  - Find where the data is available in the system
  - Determine when and where the LPTs/LPMSEs are occurring (e.g. by day of week and time of day)

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In defining a problem, we need to know we need to know how big of a problem we have. Is the trend increasing, decreasing, or unchanging?

# Tool: LPT/LPMSE %



Month	(All)							
ARR_DATE	(All)							
Sum of % lpt + lpmse	SUN	MON	TUE	WED	THU	FRI	SAT	
Day	1	2	3	4	5	6	7	Grand Total
0	2.7%	4.3%	3.1%	6.5%	2.4%	0.0%	0.0%	2.5%
1	2.7%	4.0%	0.0%	4.0%	0.0%	8.7%	3.6%	3.2%
2	0.0%	0.0%	0.0%	14.3%	0.0%	0.0%	0.0%	1.4%
3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	0.7%
4	0.0%	0.0%	0.0%	4.0%	3.7%	6.3%	11.8%	4.3%
5	0.0%	0.0%	0.0%	5.6%	0.0%	0.0%	0.0%	0.8%
6	0.0%	0.0%	0.0%	5.3%	0.0%	0.0%	0.0%	0.8%
7	0.0%	0.0%	0.0%	2.9%	0.0%	0.0%	0.0%	0.6%
8	0.0%	1.4%	1.3%	3.6%	2.1%	0.0%	0.0%	1.3%
9	0.0%	0.0%	1.5%	5.9%	0.0%	2.1%	0.0%	1.6%
10	0.0%	2.8%	6.6%	1.4%	0.0%	4.0%	0.0%	2.2%
11	0.0%	1.4%	5.6%	2.7%	1.2%	4.5%	0.0%	2.2%
12	2.9%	1.3%	5.4%	8.9%	2.7%	9.2%	2.6%	4.4%
13	0.0%	6.7%	0.0%	2.9%	4.3%	8.3%	5.8%	4.1%
14	3.0%	2.0%	15.6%	5.3%	3.2%	4.9%	7.3%	5.5%
15	2.7%	3.2%	4.5%	1.6%	7.0%	1.6%	3.6%	3.4%
16	3.1%	4.3%	3.6%	4.1%	2.8%	5.2%	3.4%	3.8%
17	4.2%	1.3%	3.1%	1.4%	5.9%	3.4%	7.1%	3.7%
18	6.0%	9.1%	2.7%	0.0%	3.7%	5.0%	3.8%	3.8%
19	2.5%	4.9%	0.0%	4.8%	1.6%	4.5%	3.1%	3.1%
20	7.4%	3.0%	3.6%	7.7%	5.9%	7.4%	7.4%	7.4%
21	9.8%	8.9%	0.0%	6.9%	3.8%	5.6%	5.7%	5.7%
22	12.2%	6.2%	6.2%	6.6%	6.5%	3.1%	7.5%	6.6%
23	4.5%	10.2%	1.9%	1.9%	10.7%	1.9%	7.0%	5.5%
Grand Total	3.1%	4.1%	4.5%	3.4%	3.4%	3.8%	3.8%	3.7%

Above average spikes

## Data:

- LPT/LPMSE calculator was developed in Excel
- Data comes from the Meditech system

## Assumptions:

- Data is being captured and is accurate
- Data can be retrieved

A key assumption that has to be tested is the validity of the data. In solving this issues, depending on the diligence of data capture at the facilities, other issues were found as far as who captured the data, who revised it, and more importantly, how were people being held accountable. Particular issues were that patient was LPT/LPMSE but had been admitted through the ER, or that they became LTP/LPMSE prior to arriving.

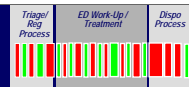
# LPT/LPMSE Calculator



## ■ Benefits:

- Financial data to determine the cost of LPT/LPMSE
- Visual display of times and days when LPT/LPMSE targets are exceeded, resulting in actionable items to reduce LPT/LPMSE

## Tool: ER Staffing Model



- Issues and observations:
  - Perception that more staffing means better efficiency and increased patient satisfaction
    - Some facilities exhibited heavy use of labor compared to their peers, yet still had poor indicators such as length of stay and employee satisfaction
    - Other facilities with less staffing than their peers had lower lengths of stay and higher employee satisfaction

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Some of the easiest components to get are the ER visits that are expected in the ED department, with historical volumes being the most accurate

Acuity is not so easy to keep track of unless you have set mechanisms in place. A charge system serves as a pseudo acuity system in the absence of true acuity data. Sometimes the perception is that a trauma designated ED will always require a higher staffing ratio than other Emergency Departments. The key is the number of visits by patient type, not the designation of the emergency room.



## ER Staffing Model



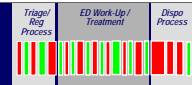
- Implementation Activities:
  - Identify the factors affecting the requirement of labor utilization
    - ED visits
    - Patient acuity
    - Time for treatment (length of stay)
  - Identify standards of care for particular acuity levels of ED patients
  - Identify best demonstrated practices that effect throughput and quality

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Important to note that the acuity capturing system is more of a pseudo acuity system since it is based on charges

Standards for length of stay and hours of care required came from ENA standards

# ER RN Staffing Model



- Required data:
  - Total annual volume
  - % of visits by E/M level
- Assumptions:
  - Length of stay for different acuity levels

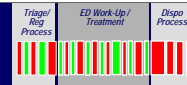
ER Volume		43,430						
Acuity Level (E/M Level)	%	LOS (Bed-Discharge)	Volume	1st HR	Each Hr	Total Hour > 1	Total Hours	RN Std
1	21.06%	60	9,146	15	7.5	0	2,287	0.250
2	19.90%	140	8,643	15	12	16	4,465	0.517
3	24.26%	200	10,536	30	15	35	11,414	1.083
4	17.08%	280	7,418	45	30	110	19,163	2.583
5	17.70%	280	7,687	60	45	165	28,827	3.750
Total	100%		43,430				66,156	1.523

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How many RN FTEs are needed to satisfy these volume requirements

This particular hospital had X nurses, how many would you need to reduce in order to meet the productivity standards

# ER Staffing Model



## Large Emergency Department: ED Staffing Model

Volume	43,430	
<b>Base Variable FTEs</b>		
	Hrs/Visit	FTEs
RN	1.523	31.8
Tech	0.250	5.2
Transport	0.288	6.0
<i>Variable Standard</i>	<i>2.061</i>	<i>43.0</i>
<b>Base Fixed FTEs</b>		
	FTEs	Hours
Charge	4.2	8,736
Triage	4.2	8,736
Clerical	4.2	8,736
Manager	0.9	1,872
<b>Total Fixed FTEs</b>	<b>13.5</b>	<b>28,080</b>
<i>Fixed Standard</i>	<i>0.647</i>	
<b>Special Function FTEs</b>		
	FTEs	Hours
Greeter	2.8	5824
Clinical Coordinator	0.9	1872
<b>Total Other FTEs</b>	<b>3.7</b>	<b>7696</b>
<i>Other Standard</i>	<i>0.177</i>	
<b>Total</b>		
Base (Productive)	2,708	
Base + Special (Productive)	2,885	
Base + Special (Paid)	3,050	
Base + Special + Education (Paid)	2,944	
<b>Total Paid Standard: (Base+Special+Educ+Orientation)</b>	<b>2,985</b>	
<b>Total Productive Standard (Base+Spl+Educ+Orientation)</b>	<b>2,823</b>	
Actual Productive Hours/Visit:	2.54	
Target Productive Hours/Visit:	2.43	
	Model	Actual
Total Paid FTEs	63.7	56.1
Total Productive FTEs	60.2	53.1

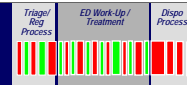


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The tool is not meant to be the final word in staffing, it is designed to allow the Emergency Department to gain a sense of how they compare to best practices in terms of roles of staff and the inclusion of specialized staff. For example, after the Hurricane Katrina, several mental health facilities closed or reduced services. Patients from these institutions are making it to the emergency room, requiring that Psychiatric nurses or other support staff at these facilities, meaning that they are Best Practice for dealing with this patient population.

# ER Staffing Model

## Example: 43,430 ER visits/year



- Situation:
  - Long ED wait times
  - Poor employee and physician satisfaction
  - Poor patient throughput

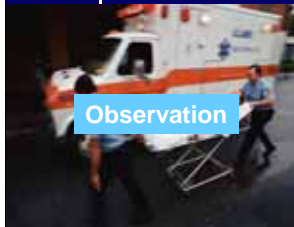
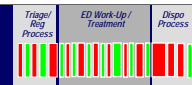
<b>Total</b>	
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Total Paid Standard: (Base+Special+Educ+Orientation)	2.985
Total Productive Standard (Base+Spl+Educ+Orientation)	2.823

- Budgeted Productivity Standard : 2.45 manhours/visit
- Model Suggestion: 2.823 manhours/visit
- Actual Run Rate: 2.794

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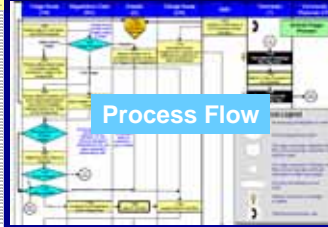
At a 43,000 visit a year ED, there were issues pertaining to quality, staffing, and satisfaction of employees and physicians. At first glance, the model output suggests that the budgeted staffing might be lower than what is required. Using the logic that if we were to increase the target model recommended levels, everything would be perfect. However, the actual run rate, which is close to the staffing model suggest that there are other issues than just staffing as there seems to be enough.

# Tool: Simulation

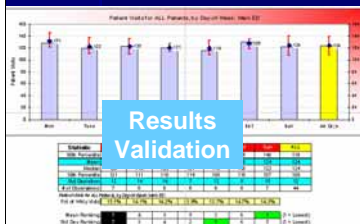


Observation

Data Collection



Process Flow



Results Validation



Discharge Patients: Main ED

Scenario	Mean LOS	Departure	Bedside Out	Dispo Delay	Departure
1.0 (Baseline)	0:35	1:17	0:27	2:32	1:19
Reduced Dispo Delay by 20%					
2.0 (Scenario)	0:19	0:59	0:28	2:35	1:18
3.0 (Scenario)	0:06	1:13	0:25	2:11	1:16
4.0 (Scenario)	0:05	1:17	0:25	2:17	1:16
5.0 (Scenario)					
6.0 (Scenario)					
7.0 (Scenario)					
8.0 (Scenario)					
9.0 (Scenario)					
10.0 (Scenario)					
11.0 (Scenario)					
12.0 (Scenario)					
13.0 (Scenario)					
14.0 (Scenario)					
15.0 (Scenario)					
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18.0 (Scenario)					
19.0 (Scenario)					
20.0 (Scenario)					

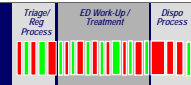
Scenarios

Implementation  
Implementation

## Benefits of simulation:

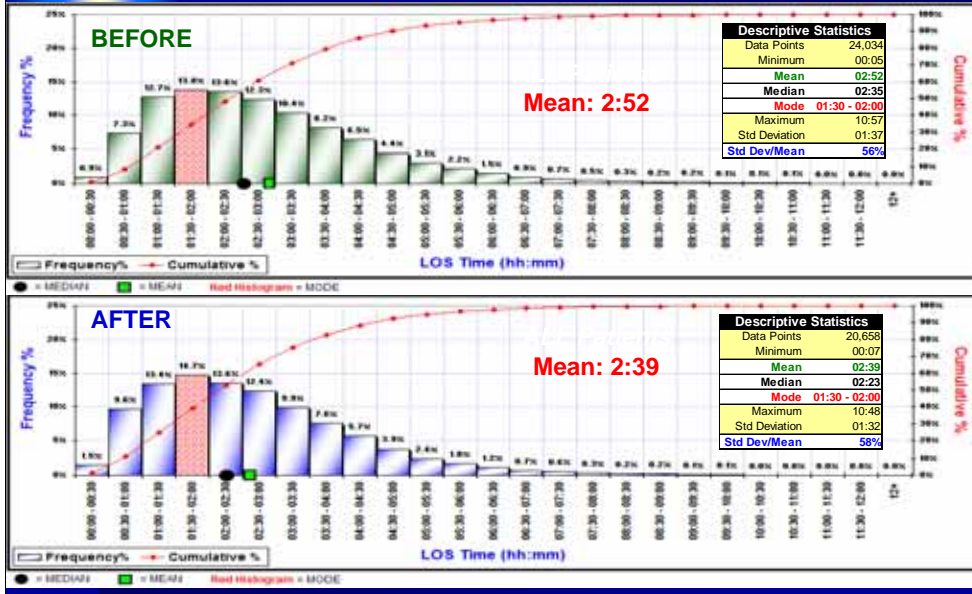
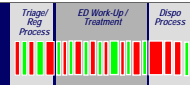
- Customization in a day, rather than weeks
- Sophisticated, deep, ED-specific outputs and analysis
- Ease of use
  - Non-simulationist can easily use for ongoing analysis
  - Department Managers, Directors, Physicians, and staff

# Initial Scenario Experiments



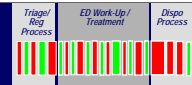
- Reduced Triage Time by 25%
- Reduce Doctor-to-Disposition by 20%
- Reduce Disposition-to-Departure by 20%
- Reduce Admission Time by 50%
- **Reduce Doctor-to-Disposition-to-Departure by 20% (Combined Scenario)**
  
- Scenarios In-Progress:
  - Adjusted Staffing Patterns
  - Adjusted Fast Track Hours
  - Adjusted Lab-Ordering Profile
  - Faster Lab Turnaround Times
  - Fast Radiology Turnaround Times

# Reduced Dispo-to-Depart Scenario: Impact on ALL Pts



Focused on the dispo-to-depart. Reduction of 8%

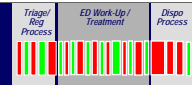
## Process Changes Made



- What did they do:
  - Re-assigned duties in bed control to create a bed “czar”
  - Implemented ED tracker
  - Re-assigned an RN to be a flow facilitator to assist with discharging patients



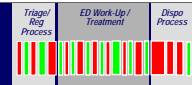
# Simulation



## ■ Benefits:

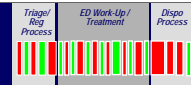
- Quantitative analysis of current state and recommended changes
- Demonstrated impacts of flow constraints such as beds, staffing, lab, and rad
- Instant “on the fly” testing of scenarios to examine optimal staffing patterns, new processes and volume changes

## Best Practice: Cross Training Registration and Unit Secretaries



- Issues and observations:
  - Silohed job responsibilities between registrars and unit secretaries
  - Different staffing patterns
  - Different reporting relationships
  - Lack of communication

## Best Practice: Cross Training Registration and Unit Secretaries



- Once the registrar is hired and trained on Patient Account Services duties, they are then cross-trained on unit secretary duties including: order entry, physician paging, telephone coverage, and ED chart analysis and breakdown
- They are then positioned throughout the ED for bedside registration and “hot seat”/unit secretary duties
- Because the “hot seat” position is so fast paced and mentally challenging, the registrars rotate coverage every 4 hours

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### How it works:

The staff is recruited and hired by PAS. Once hired, the staff completes PAS orientation and trains on the PAS duties for the ED. Once all PAS competencies are met, the employee cross-trains on typical ED unit secretary’s duties including: order entry, physician paging, telephone coverage, and ED chart analysis and breakdown. The cross-trained staff members are positioned throughout the ED for bedside registration and “Hot Seat”.

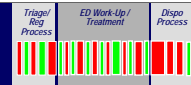
### “Hot Seat”

- “Hot Seat” duties include: all physician paging, telephone coverage and order entry for the ED.
- Because this position is so fast paced and mentally challenging, the registrars rotate coverage every 4 hours.

All ED staff members have Motorola radios with ear buds for communication; therefore, a registrar at the bedside can also enter orders as requested by physicians or nurses via the radio.

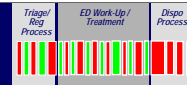
All ED cross-trained registrars/unit secretaries also perform simple ED tech functions when needed such as: transporting from triage, stocking, cleaning rooms between patients, etc.

## Best Practice: Cross Training Registration and Unit Secretaries



- Implementation activities:
  - Developed cross-trained job description
  - Designed training program
  - Created HR policy regarding implementation of the new program and options for existing staff
  - Created pay scale
  - Trained staff
  - Communicated program to ED staff and physicians (inside and outside of the ED)

# Best Practice: Cross Training Registration and Unit Secretaries

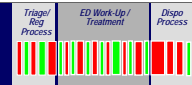


## Position Summary

Responsible for timely and accurate patient registration as well as a variety of clerical and receptionist functions in the Emergency Department. Professionally interacts with patients, physicians, nurses and other hospital staff.

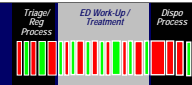
Weight	Principle Responsibilities
70%	<b>1.0 Patient registration and insurance verification</b> 1.1 Interviews patients to obtain all necessary account and registration information 1.2 Verifies all insurance and obtains recertification/authorization 1.3 Searches MPI completely and ensures correct medical records and account number are assigned to the patient 1.4 Knowledgeable on all policies regarding services, charges, insurance billing and payment of accounts
10%	<b>2.0 Unit operations</b> 2.1 Assumes primary responsibility for ensuring 95% accuracy of physician data/other entry 2.2 Prepares charts with proper information in a timely manner 2.3 Process patient charts according to paperwork flow needs and established productivity standards
10%	<b>3.0 Customer service and professionalism</b> 3.1 Answers questions and explains policies clearly 3.2 Serves as a liaison between the ED and other hospital departments 3.3 Escorts patients to his/her destination and/or refers patient to available escort 3.4 Adheres to the "Code of Conduct" and the "Mission, Vision, and Values"
5%	<b>4.0 General office/clerical</b> 4.1 Acts as a resources for the computer or printer as needed 4.2 Price, key and detail all patient charges 4.3 Acknowledge, file and send MOX messages via Meditech 4.4 Routes telephone calls to the appropriate individual and takes messages accurately
5%	<b>5.0 Other duties as assigned</b>

## Best Practice: Cross Training Registration and Unit Secretaries



- Benefits and results:
  - Increased staffing flexibility to meet patient demands
  - Increased ED physician satisfaction from 3.42 to 3.56
  - Increased registrar satisfaction from 3.60 to 3.65
  - Increased productivity from 2.1 to 2.0
- Risk constraints:
  - Ability of staff to be proficient at all duties
  - Potential of reporting relationships to be blurred (ED director and PAS director must support each other)

## Best Practice: ED Visual Cueing



- Issues and observations:
  - Lack of timely communication of lab and radiology results caused unnecessary patient delays
  - Lab knew when orders were entered but had little control of when samples were received into the lab

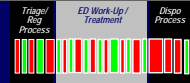
# ED Visual Cueing



Enter Ed/Admin	Depart Patient	Enter Orders	Enter Charges	Review Orders	PCI C	Enter Transport	Enter Triage	>More				
RN	PATIENT NAME	ER DOC	COMPLAINT	CHEM	HEM	PREG	MI	UA	RAD	US	CT	STA
1	U	SMI	RICSE PAIN IN R SIDE	C		C		C	C		0	REG
3	J	UIL	WALMAI EVAL	C								REG
4	N	L	MCNCH EVAL	L	L			L				REG
6	D	M	RICSE CP-BACK PAIN	C			C	C	C			REG
7	D	E P	RICSE HEADACHE 1 WEEK	C			NC				C	REG
8	S	LA	WALMAI UNKNOWN	C	C							REG
9	P	AL	RICSE R RIB/CHEST PAIN						S			REG
10	M		RICSE HEADACHE	C	C			C			C	REG
10.	M	IN	RICSE MVA-DRIVER 11/8/05							C	C	REG
11	J	IE	MCNCH CP	C	C		C			C		REG
12	H	N E	RICSE BACK PAIN	C	C			C	C			REG
13	T	R	RICSE CP	C			C	0	S		0	REG
14	S	W	MCNCH SOB	L				L				REG
15	A	IP	WALMAI INTRACTABLE VOMITTING	NC	C		L	C	S			ADM
17	S	R	RICSE LOW H/H	C	C					C		REG
19	M	L	RICSE SEIZURES	C			C	C			C	REG
20	W	RT	RICSE L LEG INJURY	C	C				L		L	REG



# Lab Visual Cueing



LOC	ROOM #	TRTM	PT NAME	AGE	LAB	UA	MIC	STATUS	IP RM#	FC
U.ER A	1423	T DU		17				REG ER		CO
U.ER A	1426	M DU		53	0	P		REG ER		SFC
U.ER B	1444	T FO	RY	18	0	0		REG ER		SBC
U.ER C	1407	R BA		51				REG ER		SFC
U.ER D	1434	M HI		42				REG ER		SBC
U.ER E	1451	R BR		45				REG ER		SBC
U.ER EX1	1334	E MO		77				REG ER		CO
U.ER EX2	1415	U SC		78	P			REG ER		CO
U.ER EX3	1022	J MA		63			C	ADM IN		CO
U.ER EX4	1119	D FR		56			C	REG ER		CO
U.ER EX5	1456	I SL		07M				REG ER		CO
U.ER EYE	1439	C RI		21				REG ER		SFC
U.ER F	1359	R GA		44			C	REG ER		SFC
U.ER G	1241	C MA		22			C	REG ER		SBC
U.ER GYN	1110	R HI		42			C	REG ER		SBC

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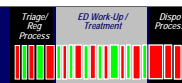
Push vs Pull

# Imaging Visual Cueing



11/09/05 RAMONDO REGIONAL MEDICAL CTR DIAGNOSTIC IMAGING TRACKER 1113										
CAN	LOC	TIME	PATIENT	EXAM	ADD'L EXAMS	REGISTRATION ARR	REG REG	INFO ELAP	EXAM WAIT	INFO START
MAM	MAM			BREAST NEEDLE LOCALI						
MAM	MAM	0945		MAMMO DIAG RT	(US)	0917	0957	0:40	1:16	
MAM	MAM	1100		MAMMOGRAM SCREEN BIL		1102	1105	0:03	0:08	
RAD	NI			NI THYROID SCAN/UPTA		0905	0941	0:36	1:32	
RAD	NI	0930		NI CARDIAC RES/STRES		0835	0848	0:13	2:25	
RAD	NI	0930		NI HEPATO-BILIARY SC		0855	0909	0:14	2:04	
RAD	US	0945		US BREAST RT	(MAM)	0917	0957	0:40	1:16	

# ED Visual Cueing



- Tracker can be placed in key locations around the hospital



## ED Visual Cueing



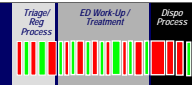
- Cost:
  - Plasma/LCD screens
  - Installation costs for computers and screens
- Implementation activities:
  - Pre-installation implementation checklist
  - Training the users
  - Identify measurable data points

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Pre installation screens assigned responsibility to staff at the facility for procurement and installation of equipment

End user training

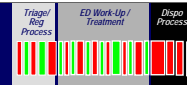
## Best Practice: Rapid Medical Exam



- Issues and observations:
  - Wait times for higher acuity patients (4's and 5's) have been increasing
  - LPT and LPMSE rate is rising

Appropriate people in the ED

## Best Practice: Rapid Medical Exam



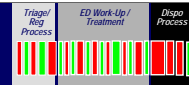
- How it operates:
  - Design & location: 2 stretchers, located adjacent to the triage
  - Staffing: PA, RN, and tech from 11a-11p
  - If ED beds are not available, the lower acuity patients are triaged to RME
  - If appropriate care can be provided in the RME (splinting, sutures, etc.) the patient is discharged directly from the RME once the care has been provided

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### How it operates:

- If ED beds are not available, the lower acuity patients are triaged to RME.
- The RME area is typically staffed with a PA, a nurse, and one tech from 11 AM to 11 PM. The RME area is adjacent to Triage and contains two (2) stretchers.
- If appropriate care can be provided in the RME (splinting, sutures, etc.) the patient is discharged directly from the RME once the care has been provided.

## Best Practice: Rapid Medical Exam



- Costs:
  - May involve adding a physician assistant
  - May involve modest facility modifications and equipment purchase
- Benefits and results:
  - Significant decrease in LPT and LPMSE from 9% to 2%
  - Overall LOS decrease from 180 minutes to 165 minutes
  - Patient satisfaction improved from fourth quartile to second quartile

## Keys to Success

### ■ Themes:

- Customer service/patient satisfaction
- Facility leadership involvement and commitment
- Physician involvement
- Staff involvement
- Decisions using data
- Measuring and tracking results

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Customer service:

- Be proactive
- Communicate time expectations

### **Commitment from senior leadership**

- Any project in the ED with outside assistance requires executive commitment and buy in
- Alignment of goals with senior management
  - Quality
  - Financial
  - Strategic



## Keys to Success

- Testing for commitment:
  - Has a link been made between flow issues and business goals?
  - Have strategic goals that rely on improving flow been established?
  - Are flow issues on the agenda of administrative team meetings?
  - Is the Medical Executive Committee tracking flow issues?

## Lessons Learned

- Push vs. pull
- Adding a new lane to the freeway only gets you to the traffic jam faster



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- Pulling the patients through with Rapid Medical Exam and any open bed
- Simulation helps alleviate bottlenecks

## Lessons Learned

- Make decisions based on data not perception
- The quality of data at a facility can be the source of a perceived issue
- More staffing does not always lead to better throughput
- Having the right roles for the volume of the department can help in the department throughput

# Questions



## Contact Information



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