Creating a “No Wait” ED

Karen Murrell, MD, MBA, FACEP
Physician Lead-Emergency Medicine, Kaiser Northern California
Assistant Physician in Chief- Hospital Operations, ED, Psychiatry/Process Improvement
Kaiser South Sacramento

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Session Objectives

After this session, participants will be able to:

- Describe the execution strategies used at Kaiser South Sacramento to achieve results
- Identify a few ideas that could be tried in your emergency department
Our Past: Impending Disaster!

Kaiser South Sacramento ED

- Busiest ED in Sacramento
- Kaiser Facility
- Serves mixed payer/socioeconomic population (almost 40% Medi-Cal/Uninsured)
- Level 2 Trauma Center
- UC Davis ED residency teaching
- On pace for 120,000 visits this year
- Up 27% this January year over year
Space Constrained

- 49 ED bays
- Lose 3 for Trauma
- 4 dedicated to psych
- Over 2500 patients per ED bay!

Our Past State
Prior Baseline Data

- 450 hours of diversion annually
- LWOT rates 6.6% on average, but over 12% some months
- Average door to doctor: 55 minutes
- Total time in ED on average
  - 4 ½ hours for discharged patients
  - 8 hours for admitted patients
- But…wide variability day to day with much longer times some days

MD perspective

- May work a 12 hour shift and only see 8 patients with 30 or more patients in the waiting room
- Poor flow made it impossible to see patients
- Doctors were frustrated, complaining to administration about ED function
- Patients angry, staff angry, chaos!
- Unnecessary tests ordered
For our patients

- Waits of 5-6 hours to see a doctor
- 30-40 patients in the waiting room every night at 11pm
- Calls to “see if I could get them in quicker”

We saw the crisis coming...

- Volume going up from 67,000 in 2008 to 120,000 in 2015
- Trauma started Aug 2009
- County psychiatric failures
- Hospital space constraints
Worried it could have been us…

Sacramento girl needed amputations after 5-hour wait at emergency room

By Cynthia Hubert
chubert@sacbee.com
Published: Friday, Dec. 31, 2010 - 12:00 am | Page 1B
Last Modified: Sunday, Feb. 13, 2011 - 2:16 pm

As his tiny daughter’s skin turned blotchy and her body went limp during a lengthy wait at Methodist Hospital’s emergency room, Ryan Jeffers panicked.

Malaya Jeffers, 2, has Streptococcus A, which has led to the amputation of both feet and a hand. She is now being treated at Children’s Hospital in Oakland.

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Our Current State

- Time to Physician 19 minutes
- LWOT: 0.4% all of last year
- Diversion hours: **Zero**!
- Length of Stay Down
  - ESI Level 4,5: 43 minutes
  - Discharged patients: 2 hours 9 minutes
  - Rare inpatient holds in the ED!
2014 Year End Totals: 80% of patients are out of the ED in under 4 hours, and 55% are done in under 2 hours

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Totals</th>
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<tbody>
<tr>
<td>0-2 Hours</td>
<td>55.0 Percent</td>
</tr>
<tr>
<td>2-4 Hours</td>
<td>25.2 Percent</td>
</tr>
<tr>
<td>4-6 Hours</td>
<td>9.1 Percent</td>
</tr>
<tr>
<td>6-10 Hours</td>
<td>5.0 Percent</td>
</tr>
<tr>
<td>&gt; 10 Hours</td>
<td>5.7 Percent</td>
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</tbody>
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Current State: Patient Side

- March, 2011: our ED
- 3 year old girl, brought in by mom…vomiting and diarrhea for 3 days, no fever
- Quickly evaluated by MD who said she “just doesn’t look right”
- LP showed >7000 white cells, culture grows out meningococcus

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Recap

<table>
<thead>
<tr>
<th>Measure</th>
<th>Before</th>
<th>After</th>
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</thead>
<tbody>
<tr>
<td>Hours on Divert per year</td>
<td>450</td>
<td>0</td>
</tr>
<tr>
<td>Percent LWOBS</td>
<td>6.6%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Door-to-Doc (minutes)</td>
<td>55</td>
<td>19</td>
</tr>
<tr>
<td>LOS – Treat &amp; Release (hours)</td>
<td>4.5</td>
<td>2.4</td>
</tr>
<tr>
<td>LOS – Treat &amp; Admit (hours)</td>
<td>8.0</td>
<td>6.0</td>
</tr>
</tbody>
</table>

_So, how is it possible to go from Before to After?_
A little about Kaiser…

- Prepaid integrated health system
- No financial incentive to admit patients
- Similar acuity to other ED’s, but good follow-up and available testing allows discharge of many patients
- Examples: stable chest pain, atrial fibrillation, TIA, deep vein thrombosis, diverticulitis
- So, not only do we diagnose our patients, we treat as many as possible to send them home

Acuity

- In a comparison study, had the same acuity as most Level 2 Trauma Centers
- Because of systems that are in place we only admit 11% of patients vs 18% typically
- As an example, only 10% of chest pain patients are admitted
How to even get started?

- Two key elements:
  - Process
  - Culture

Amazing cultural change over time...

- Worked to empower all employees to own the change and think about process improvement in their everyday life.
- Told all new hires… “if you don’t like change you probably don’t want to work here”
- Gave all physicians leadership books and challenged them to do projects that would help the department
- Is precedent- Toyota got over 80,000 suggestions from employees and implemented 99% of them.
- Easier said then done!
What we discovered:

- **Key Principles:**
  - Small reductions in service time can really make an impact in times of high utilization
  - Decreasing length of stay is the most key metric for dramatic improvement quickly
We live on the high end of the curve…

Building Blocks to Improve Flow:

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Door to Doctor....

- Rapid Care
- Staffing for Volumes
- Team Assignment System

Pearls

- Set a vision with the staff “our patients do not wait”, “we want to be the best emergency department in America”

- Take risks: ask forgiveness later… a few hours of time for the staff in a Kaizen event will pay off in spades later

- Small tests of change…everyone is willing to try something for a day, week, month especially if their voice is heard when making changes

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Triage

- Remember, a “non-value added” necessity in many cases
- Eliminate when possible
- Directly pull into an area: if you guessed wrong just shift the patient!
- 90% of the time, first impression is the right one

Rapid Care

- Most of you have an urgent care, right?
- Why did our “Physician in Triage” rapid care help us so much?
Rapid Care

- Our first project

- Low acuity patients were “triaged to home”

- 30% of our patients fit in this category after healthcare reform

Started us thinking in a new way...

- Less triage time

- Small constrained area

- Great teamwork

- Uniform Stocking

- “One contact” as much as possible
Wasn’t pretty when it started

That was our first project!
Low Acuity Flow

Immediate Results

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Streamlined Low Acuity (Video)

No repeat work...
goal arrival to discharge in under one hour

Patient

MD  RN

All sitting in close proximity and working toward rapid discharge-minimal movement by everyone!

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Lean Printing
Staffing for our volumes…

- Refining our staffing… we did not match our staffing to the demand!

Nursing Staffing: Before

2008 Nursing Staffing
Kaiser South Sacramento

ED Arrivals by Hour of the Day
Kaiser South Sacramento 2008
Physician Staffing: Post

Aggregate Physicians - Demand vs Staffed Capacity

After Health Care Reform
Looking at Staffing at Least Monthly
Great results, but still some long waits

- How to replicate the teamwork in the triage area into the main ED
- **Who owns the waiting room?**

Team Assignment System

- Patients are assigned to a color coded team in the main ED **on arrival!**
- This created ownership for patients and decreased our time to MD dramatically
- Started at 55 minutes: now average 19 minutes arrival to MD start (over 300 patients a day)
Not just the assignments: Team Work!

- Team composed of a doctor and two RN’s
- Each team gets six rooms in the main ED with 2 flex beds when needed
- Manage your own area
- Code rooms flexible for any team
- Liked because loaded with 3 patients initially, but tapered at the end so home on time...
- See many more patients than a traditional system

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The job is easier with everyone lifting

Doctor to Dispo
Intake area

- Seeing stable Level 3 patients in the front of the ED
- Remember 50% of patients are ESI 3!
- We are pushing more patients through this area and they are doing well
- All about creating capacity

Key Points:

- KEEP VERTICAL PATIENTS VERTICAL!
- PO meds instead of IV meds: patients like it better!
- Never change your diagnostics
  - Partner with radiology to eliminate contrast
  - Have a phlebotomist if possible
- Results waiting room for patients who need testing
- Partner with the Main ED if more treatment or admission is needed
Intake

- MD/RN team in the front eliminates waste
- Immediate communication between the team members

Intake Results

- Patients with the same chief complaint had an hour cut off of their length of stay
- Abdominal pain diagnosed in under 2 hours
Intake patients: no one in extremis!

- Abdominal pain
- Back pain- <40 years
- Chest pain-< 30 years
- DVT rule out
- Flank pain-<40 years
- Headache with migraine history
- Pelvic pain (stable r/o ectopic)
- Pediatric fever over 6 months
- Gastroenteritis

Open Data

- First we met together as a group and decided goals
- Then, worked on systems so MD’s could reach goals without heroics
- Staff meeting discussed efficiency tips and shared our best practices
- Efficiency balanced with quality, patient satisfaction
Open data

- Metrics are not random: chosen to CREATE THE CAPACITY we need to see our patients and eliminate waiting times

Results:
standard deviation narrowed, length of stay decreased
Results

- No push-back
- MD’s requesting more data
- Want to add nursing and tech data in as well

Open Data Results

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Dispo to Departure

Clinical Decision Area

- Because of our low admit rate, higher acuity than the typical observation unit
- Initially partnered with our hospitalists and used ED nursing
- Gave up 4 beds in the ED to create hospital capacity
Current State

- No more room in the ED: expanded to an eight bed unused unit close to the ED with strict protocols
- Staffed with **ED MD's/RN's** with a focus on flow
- A Flexible Unit
  - Observation with more testing: GI bleed, chest pain, TIA, syncope, pyelonephritis
  - Procedures: Transfusion, dialysis
  - Uncertain disposition: mild DKA, early sepsis, asthma

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GI Bleed: a case study for flow

- Elderly patient arrives in ED with lower GI bleed complaint
- Vital signs checked, iStat hemoglobin done, other labs drawn and sent
- Immediate transfer to CDA
- Message left on the “GUT phone” if afterhours
- Standardized bowel prep begun, transfused if needed, serial labs
- Scope in the AM in a procedure room IN THE CDA (minimal movement)
- 75% are discharged home after recovery
Happy Doctor/Happy Patient

Reflected in Patient Satisfaction Scores

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Is it working?

- Trial was done with CDA, closed for three months then reopened
- When CDA was closed admission percentage rapidly climbed to 13%
- Hospital became impacted
- Now, consistently admission percentage down to around 10%

Many Hospitals: War between ED & Inpatient
Solution: ED presence to improve hospital flow

- Found a partner on the floor who wanted to make things better
- Wanted to go beyond the traditional meetings without many results
- The two of us decided to sponsor a series of Kaizen events with ED/Floor participation

First Step: Bed Hub

- An assigned person who focused on placement of patients
Second Step: Bed Huddle

- Daily bed huddle with ED and Floor Nursing leadership
- MD participation when beds are tight
- Used a predictive model to **anticipate** admissions: “we know they are coming, we just don’t know their names”
- RN/PCC’s predict the discharges
- Main result: ownership for the patients waiting in the ED

Fourth Step: ED to Floor report

- Kaizen event to standardize the reporting process and prevent repeat calls…
- Frontline staff helped to drive the process
The Results:

But- what to do when there is just not enough room
We don’t have to be surprised…

Standardized Overcrowding Score

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Visible to all employees...

Linked to a “surge plan”
Our Final Truths!

- The longer they stay… the more work they are

- The deeper they get… the longer they stay

Most of all…

a culture of patient centered innovation and flow