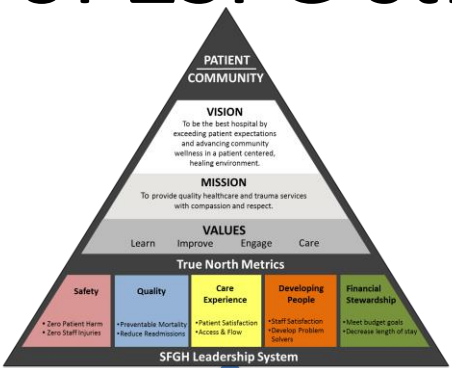# Update on ZSFG Optimizing Hospital Flow tactic
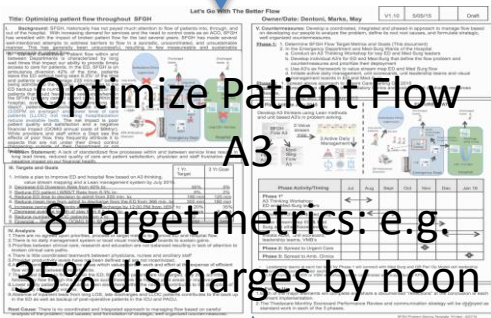
Deployment of ZSFG strategic plan

True North Metric(s)
(Organization wide goals)
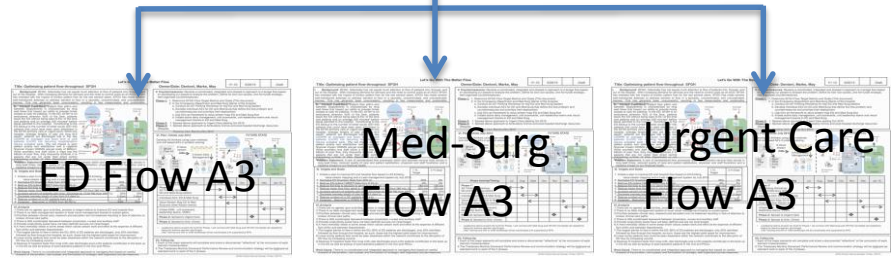
True North Metrics
- Access and Flow
- Patient Satisfaction
- Decrease LOS
- Meet budget

Ten Tactical A3's
(Organization wide plan)

Optimize Patient Flow A3

8 Target metrics: e.g. 35% discharges by noon

Unit level A3
(Front line problem solving)

ED Flow A3

Med-Surg Flow A3

Urgent Care Flow A3

Multiple (4-8) Unit driver metrics

Time from arrival until seen

35% Order to D/C by 10AM

# of Patients turned away

Align Vertically

Improve horizontally at the unit level

I. Background: SFGH has historically not paid much attention to flow of patients into, through, and out of the hospital.

- ## Current conditions
  - On diversion 42% of the time
  - Patients leave ED without being seen 8.3% of the time
  - Time from arrival to discharge from the ED is 4 hours
  - Time from arrival to hospital admission is 8 hours
  - Average LOS in hospital is 6.6 days
  - Patients discharged from hospital by noon is <15%

and patient satisfaction, physician and staff frustration and a negative impact on our financial health.

III. Targets and Goals

	1 Yr. Target	3 Yr.Goal
1. Initiate a plan to improve ED and hospital flow based on A3 thinking, value stream mapping and a Lean management system by July 2015.		
2. Decrease ED Diversion Rate from 42% to:	35%	0%
3. Reduce ED patient LWBS/T Rate from 8.3% to:	6%	2%
4. Reduce ED time to decision to admit from 225 min. to:	180 min	120 min
5. Reduce mean time from admit to discharge from the ED from 244 min. to:	210 min	150 min
6. Reduce mean time from ED arrival to hospital admission from 473 min. to:	360 min	210 min
6. Increase percent of patients with hosp. discharge by 12:00 PM from 16%[4] to: 35%	20%	35%
7. Decrease average length of stay from 6.6 days to:	6 days	5 days
8. Reduce number of LLOC patients from x to:	12	6
9. Financial - Reduction in OOMG from $8.0M to:	$6M	$4M

IV. Analysis

1. There are no agreed upon priorities, process or target metrics for ED and hospital flow.
2. There is no daily management system or local visual management boards to sustain gains.
3. Priorities between clinical care, research and education are not balanced resulting in lack of attention to broken clinical care paths.
4. There is little coordinated teamwork between physicians, nurses and ancillary staff based in standard work.
5. There is a lack of accountability from senior leadership to front line staff around performance metrics.
6. Productivity levels have not been defined and are not incentivized.
7. A 'hero mentality' exists in some areas which values certain work and effort at the expense of efficient flow within and between Departments.
8. The areas most impacted by broken flow are the ED and the Med-Surg Wards; these are the highest yield areas for improvement.
9. Lower acuity patients who could be seen elsewhere within the network contribute to disruption of ED flow by increasing volume.
10. Absence of inpatient beds from long LOS, late discharges and LLOC patients contributes to the back up in the ED.

Root Cause: There is no coordinated and integrated approach to managing flow based on careful analysis of the problem, identification of root causes, and formulation of strategic, well organized countermeasures.

V. Countermeasures:
Develop a coordinated, integrated and phased-in approach to manage flow based on developing our people to analyze the problem, define its root root causes, and formulate strategic, well organized countermeasures.

Phase 1:
1. Determine SFGH Flow Target Metrics and Goals (This document)
2. In the Emergency Department and Med-Surg Wards of the Hospital
   a. Conduct an A3 Thinking Workshop for key ED and Med Surg leaders
   b. Develop individual A3's for ED and Med-Surg that define the flow problem and countermeasures and prioritize their deployment
   c. Use A3's as framework to value stream map ED and Med Surg flow
   d. Initiate active daily management, unit scorecards, unit leadership teams and visual management boards in ED and Med-Surg.

Phase 2: 1. Spread above approach to Urgent Care starting Oct 2015
Phase 3: 1. Spread above approach to Ambulatory Clinics and post-hospital discharge resources (Respite, Housing, etc). Starting Nov 2015
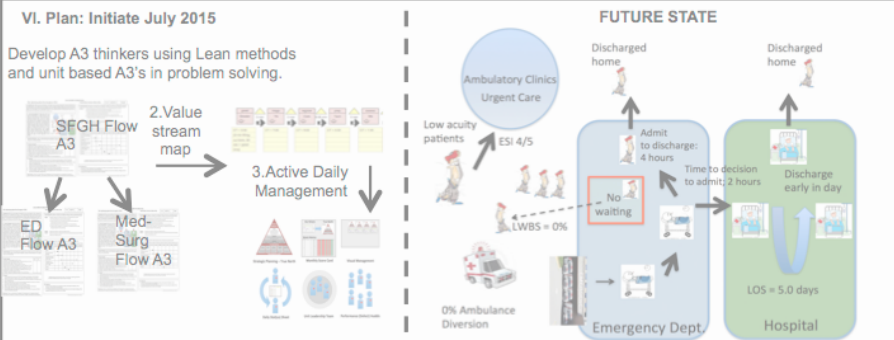
VI. Plan: Initiate July 2015

Develop A3 thinkers using Lean methods and unit based A3's in problem solving.

FUTURE STATE

Phase Activity/Timing	Jul	Aug	Sept	Oct	Nov	Dec	Jan 16
Phase 1* A3 Thinking Workshop: ED and Med-Surg leaders	←→						
Individual A3's: ED & Med Surg:		←					→
Value Stream Map ED & Med Surg and other Kaizen events				←			→
Initiate ADM, unit scorecard, leadership teams, VMB's					←		→
Phase 2: Spread to Urgent Care				←			→
Phase 3: Spread to Amb. Clinics							←→

- Leadership teams at each tier level for Phase 1 will connect with Med Surg and OR Peri Op Model cell leadership teams for lessons learned exchanges.
  LMS Training and KW or VSM workshops will be coordinated and supported by KPO

VII. Follow-Up

1. Each of the major elements will complete and share a documented "reflections" at the conclusion of each element implementation.
2. The Thedacare Monthly Scorecard Performance Review and communication strategy will be deployed as standard work in each of the 3 phases.
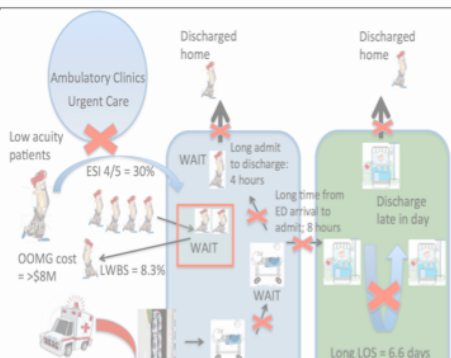
ED Flow and access performance

	SFGH ED	National Median
LWBS	8%	2%
Time arrival to D/C	244	137 min
Time arrival to admit	473	246 min

Title: Optimizing patient flow throughout SFGH

Owner/Date: Dentoni, Marks, May

I. Background: SFGH has historically not paid much attention to flow of patients into, through, and out of the hospital. With increasing demand for services and the need to control costs as an ACO, SFGH has wrestled with the impact of broken patient flow for the last several years. SFGH has made several well-intentioned attempts to address barriers to flow in a sporadic, uncoordinated, and unsustainable manner. This has generally been unsuccessful, resulting in few measurable and sustainable improvements in patient flow.

II. Current Conditions: Patient flow within and between Departments is characterized by long wait times that impact our ability to provide timely access to care for patients. In the ED, SFGH is on ambulance diversion 42% of the time, patients leave the ED without being seen 8.3%[1] of the time and patients wait on average 225 minutes[2] before being admitted to the hospital. Contributing to the ED backup is the number of lower acuity (ESI 4/5) patients that could have been seen elsewhere in the SFHN (primary care or urgent care). Within the hospital, average lengths of stay are long (6.6 days)[3], patients are discharged late in the day (3:05PM on average)[6] and lower level of care patients (LLOC) not requiring hospitalization reduce available beds. The net impact is poor patient quality and satisfaction and a negative financial impact (OOMG annual costs of $8M/yr). While providers and staff within a Dept see the effects of poor flow, they frequently attribute it to aspects that are not under their direct control (happening outside of their Department or not fixable).
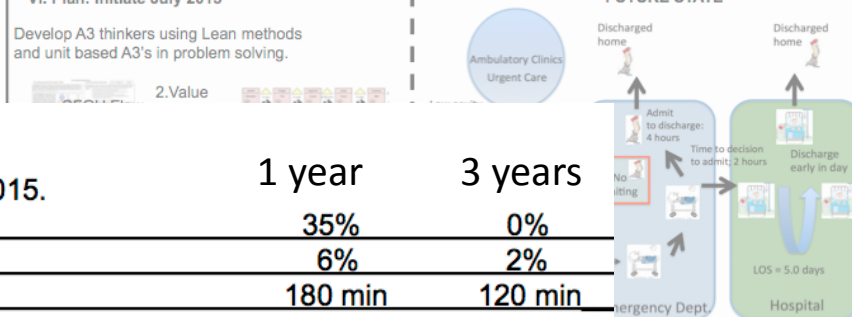

V. Countermeasures: Develop a coordinated, integrated and phased-in approach to manage flow based on developing our people to analyze the problem, define its root root causes, and formulate strategic, well organized countermeasures.

Phase 1: 1. Determine SFGH Flow Target Metrics and Goals (This document)
2. In the Emergency Department and Med-Surg Wards of the Hospital
   a. Conduct an A3 Thinking Workshop for key ED and Med Surg leaders
   b. Develop individual A3's for ED and Med-Surg that define the flow problem and countermeasures and prioritize their deployment
   c. Use A3's as framework to value stream map ED and Med Surg flow
   d. Initiate active daily management, unit scorecards, unit leadership teams and visual management boards in ED and Med-Surg.
Phase 2: 1. Spread above approach to Urgent Care starting Oct 2015
Phase 3: 1. Spread above approach to Ambulatory Clinics and post-hospital discharge resources (Respite, Housing, etc). Starting Nov 2015

VI. Plan: Initiate July 2015

Develop A3 thinkers using Lean methods and unit based A3's in problem solving.

2. Value

FUTURE STATE

III. Targets and Goals

1. Initiate a plan to improve ED and hospital flow based on A3 thinking, value stream mapping and a Lean management system by July 2015.

	1 year	3 years
2. Decrease ED Diversion Rate from 42% to:	35%	0%
3. Reduce ED patient LWBS/T Rate from 8.3% to:	6%	2%
4. Reduce ED time to decision to admit from 225 min. to:	180 min	120 min
5. Reduce mean time from admit to discharge from the ED from 244 min. to:	210 min	150 min
6. Reduce mean time from ED arrival to hospital admission from 473 min to:	360 min	210 min
6. Increase percent of patients with hosp. discharge by 12:00 PM from 16%[4] to:	20%	35%
7. Decrease average length of stay from 6.6 days to:	6 days	5 days
8. Reduce number of LLOC patients from x to:	12	6
9. Financial - Reduction in OOMG from $8.0M to:	$6M	$4M

	Nov	Dec	Jan 16
			→
			→
Initiate ADM, unit scorecard, leadership teams, VMB's		←	→
Phase 2: Spread to Urgent Care		←	→
Phase 3: Spread to Amb. Clinics			↔

IV. Analysis
1. There are no agreed upon priorities, process or target metrics for ED and hospital flow.
2. There is no daily management system or local visual management boards to sustain gains.
3. Priorities between clinical care, research and education are not balanced resulting in lack of attention to broken clinical care paths.
4. There is little coordinated teamwork between physicians, nurses and ancillary staff based in standard work.
5. There is a lack of accountability from senior leadership to front line staff around performance metrics.
6. Productivity levels have not been defined and are not incentivized.
7. A 'hero mentality' exists in some areas which values certain work and effort at the expense of efficient flow within and between Departments.
8. The areas most impacted by broken flow are the ED and the Med-Surg Wards; these are the highest yield areas for improvement.
9. Lower acuity patients who could be seen elsewhere within the network contribute to disruption of ED flow by increasing volume.
10. Absence of inpatient beds from long LOS, late discharges and LLOC patients contributes to the back up in the ED.

Root Cause: There is no coordinated and integrated approach to managing flow based on careful analysis of the problem, identification of root causes, and formulation of strategic, well organized countermeasures.

- Leadership teams at each tier level for Phase 1 will connect with Med Surg and OR Peri Op Model cell leadership teams for lessons learned exchanges.
  LMS Training and KW or VSM workshops will be coordinated and supported by KPO

VII. Follow-Up
1. Each of the major elements will complete and share a documented "reflections" at the conclusion of each element implementation.
2. The Thedacare Monthly Scorecard Performance Review and communication strategy will be deployed as standard work in each of the 3 phases.

Title: Optimizing patient flow throughout SFGH

Owner/Date: Dentoni, Marks, May

I.   Background: SFGH has historically not paid much attention to flow of patients into, through, and out of the hospital. With increasing demand for services and the need to control costs as an ACO, SFGH has wrestled with the impact of broken patient flow for the last several years. SFGH has made several well-intentioned attempts to address barriers to flow in a sporadic, uncoordinated, and unsustainable manner. This has generally been unsuccessful, resulting in few measurable and sustainable improvements in patient flow.

II.   Current Conditions: Patient flow within and between Departments is characterized by long wait times that impact our ability to provide timely access to care for patients. In the ED, SFGH is on ambulance diversion 42% of the time, and patients leave the ED without being seen 8.3%[1] of the time and patients wait on average 225 minutes[2] before being admitted to the hospital. Contributing to the ED backup is the number of lower acuity (ESI 4/5) patients that could have been seen elsewhere in the SFHN (primary care or urgent care). Within the hospital, average lengths of stay are long (6.6 days)[3], patients are discharged late in the day (3:05PM on average)[4] and lower level of care patients (LLOC) not requiring hospitalization reduce available beds. The net impact is poor patient quality and satisfaction and a negative financial impact (OOMG annual costs of $8M/yr). While providers and staff within a Dept see the effects of poor flow, they frequently attribute it to aspects that are not under their direct control (happening outside of their Department or not fixable).
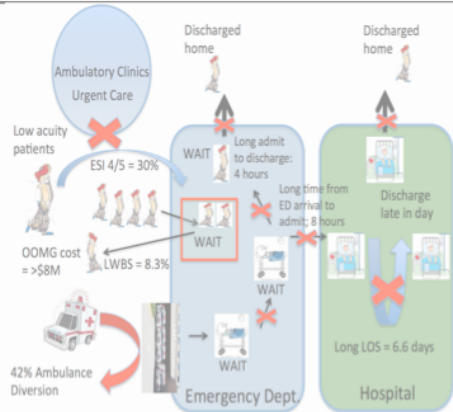
Problem Statement: The flow of patients within and between service lines results in long lead times, reduced quality of care and patient satisfaction, physician and staff frustration and a negative impact on our financial health.

III. Targets and Goals

	1 Yr. Target	3 Yr.Goal
1. Initiate a plan to improve ED and hospital flow based on A3 thinking, value stream mapping and a Lean management system by July 2015.		
2. Decrease ED Diversion Rate from 42% to:	35%	0%
3. Reduce ED patient LWBS/T Rate from 8.3% to:	6%	2%
4. Reduce ED time to decision to admit from 225 min. to:	180 min	120 min
5. Reduce mean time from admit to discharge from the ED from 244 min. to:	210 min	150 min
6. Reduce mean time from ED arrival to hospital admission from 473 min. to:	360 min	210 min
6. Increase percent of patients with hosp. discharge by 12:00 PM from 16%[4] to:	20% (35%)	35%
7. Decrease average length of stay from 6.6 days to:	6 days	5 days
8. Reduce number of LLOC patients from x to:	12	6
9. Financial - Reduction in OOMG from $8.0M to:	$6M	$4M

IV. Analysis
1. There are no agreed upon priorities, process or target metrics for ED and hospital flow.
2. There is no daily management system or local visual management boards to sustain gains.
3. Priorities between clinical care, research and education are not balanced resulting in lack of attention to broken clinical care paths.
4. There is little coordinated teamwork between physicians, nurses and ancillary staff based in standard work.
5. There is a lack of accountability from senior leadership to front line staff around performance metrics.
6. Productivity levels have not been defined and are not incentivized.
7. A 'hero mentality' exists in some areas which values certain work and effort at the expense of efficient flow within and between Departments.
8. The areas most impacted by broken flow are the ED and the Med-Surg Wards; these are the highest yield areas for improvement.
9. Lower acuity patients who could be seen elsewhere within the network contribute to disruption of ED flow by increasing volume.
10. Absence of inpatient beds from long LOS, late discharges and LLOC patients contributes to the back up in the ED.

Root Cause: There is no coordinated and integrated approach to managing flow based on careful analysis of the problem, identification of root causes, and formulation of strategic, well organized countermeasures.
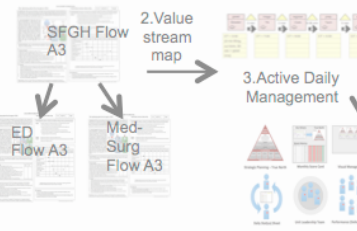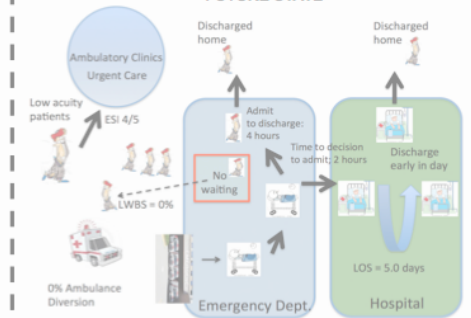
- # Countermeasures
  - – Define performance targets (this document)
  - – A3 Thinking Workshop for ED and Med-Surg leaders
  - – Develop individual A3s for ED and Med-Surg that define the flow problem
  - – Use A3's as framework to value stream map ED and Med-Surg flow
  - – Initiate the daily management system in the ED and Med-Surg

VI. Plan: Initiate July 2015

Develop A3 thinkers using Lean methods and unit based A3's in problem solving.

FUTURE STATE

Phase Activity/Timing	Jul	Aug	Sept	Oct	Nov	Dec	Jan 16
Phase 1* A3 Thinking Workshop: ED and Med-Surg leaders	←	→					
Individual A3's: ED & Med Surg:		←				→	
Value Stream Map ED & Med Surg and other Kaizen events				←			→
Initiate ADM, unit scorecard, leadership teams, VMB's				←			→
Phase 2: Spread to Urgent Care					←		→
Phase 3: Spread to Amb. Clinics							↔

- Leadership teams at each tier level for Phase 1 will connect with Med Surg and OR Peri Op Model cell leadership teams for lessons learned exchanges.
  LMS Training and KW or VSM workshops will be coordinated and supported by KPO

VII. Follow-Up
1. Each of the major elements will complete and share a documented "reflections" at the conclusion of each element implementation.
2. The Thedacare Monthly Scorecard Performance Review and communication strategy will be deployed as standard work in each of the 3 phases.
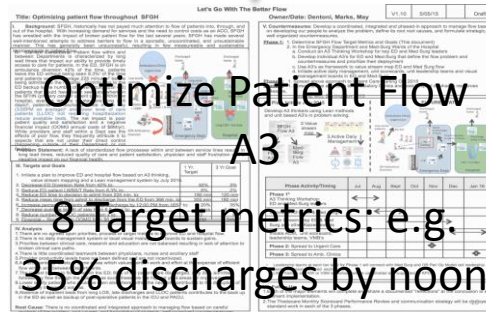
Use of cascading A3's
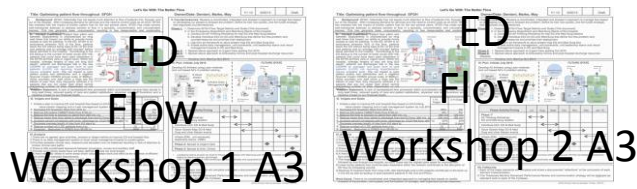
True North Metric(s)
(Organization wide goals)

Tactical A3
(Organization wide plan)

Unit level A3
(Front line problem solving)

True North Metrics
- Access and Flow
- Patient Satisfaction
- Decrease LOS
- Meet budget

Optimize Patient Flow A3

8 Target metrics: e.g. 35% discharges by noon

ED A3

ED Flow A3

Develop people A3

ED Flow Workshop 1 A3

ED Flow Workshop 2 A3
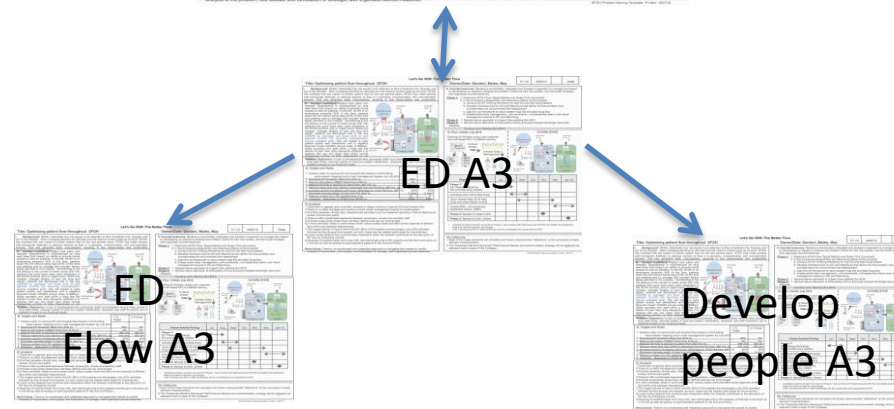
Align Vertically

Improve horizontally at the unit level

What have we done/what have we learned

- Countermeasure deployment began ~June 2015
- Have trained ED and Med-Surg leaders in A3 Thinking via Workshops
  - (>150 SFGH and UCSF leaders: Jul 2015-present)
- Developed individual A3's for the ED, ED Flow and for the 1st ED Improvement Workshop
- A3 being developed for inpatient flow
  - From decision to admit in the ED to discharge

Value stream map Oct 5-9, 2015
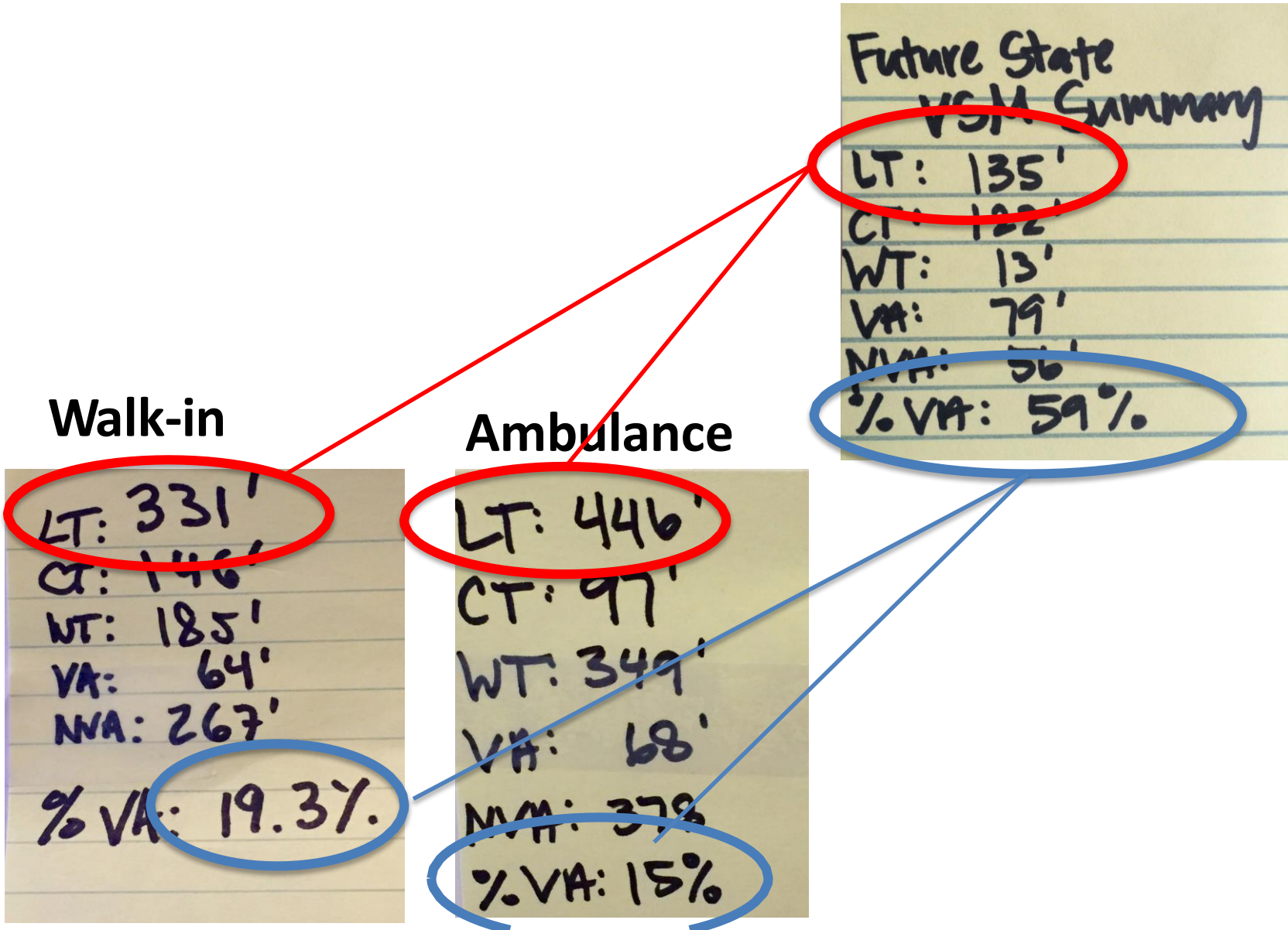
Current state

Walk-in Patient

LT: 331'
CT: 146'
WT: 185'
VA: 64'
NVA: 267'

% VA: 19.3%

Ambulance Patient

LT: 446'
CT: 97'
WT: 349'
VA: 68'
NVA: 378
% VA: 15%

Current state map – Walk in patient

Future state

SFGH Emergency Department Future State Map

Future state vs current state

Title: ED Kaizen Workshop I "Front End Flow" | **Owner/Date: Jenna Bilinski** | V10 | 12/3/15 | | |
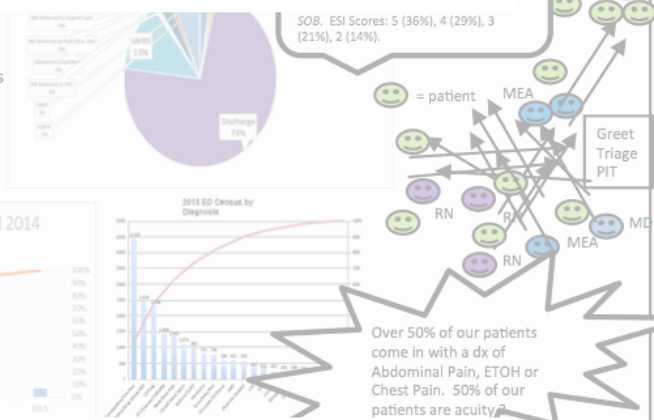
I. Background

Patients present to an MEA in the waiting area upon presentation to the ED. Patients are triaged, registered and roomed based on **ED bed availability, staffing, acuity** and **resources**. The decision on where the patient is roomed is made by the Triage Nurse. The Triage nurse also: responds to radio calls, gives meds, starts IVs, draws labs, takes 4 minutes for documentation, transports patients throughout the hospital, rooms patients, does handoff, find supplies, notifies different providers of patient needs. There are up to 3 Triage nurses at a time.

Current State
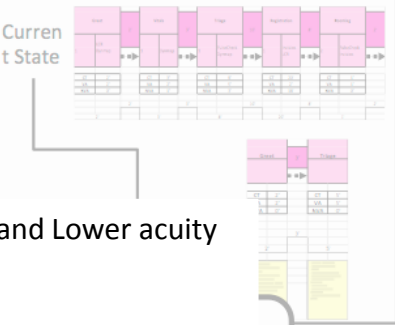
- **Focus on "Front end Flow and Lower acuity patients**
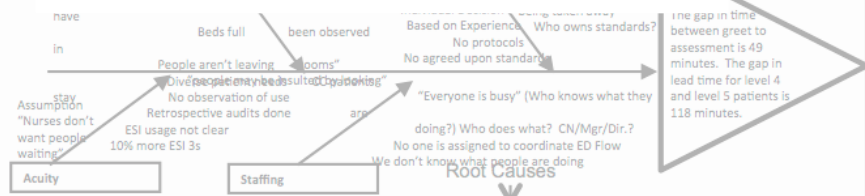 - ESI 4 and 5

II.

7% of patients LWBS
12% of ESI level 4s LWBS
21% of ESI 5s LWBS
Median LOS for 4s and 5s is 253 minutes.
The Median LOS for PIT patients is less than 144 minutes.

SO8. ESI Scores: 5 (36%), 4 (29%), 3 (21%), 2 (14%).

= patient

ED Patients by ESI Level 2014

2015 ED Census by Diagnosis

Over 50% of our patients come in with a dx of Abdominal Pain, ETOH or Chest Pain. 50% of our patients are acuity 4

- **Goals and Targets**
  - Reduce lead time for ESI 4 and 5 patients from 4:13 to 2:15
  - Reduce time for greet and triage (time to proviider) from 59 minutes to 10 minutes
  - Reduce LWBS from 8% to 0%

III.

1.
2.
3.

IV.

have
in
Beds full
been observed
People aren't leaving
rooms
Based on Experience
No protocols
No agreed upon standard
Diversion may be a result of rooming?
Who owns standards?
Being taken away
"Everyone is busy" (Who knows what they doing?) Who does what? CN/Mgr/Dir.?
No one is assigned to coordinate ED Flow
We don't know what people are doing
The gap in time between greet to assessment is 49 minutes. The gap in lead time for level 4 and level 5 patients is 118 minutes.

Assumption
"Nurses don't want people waiting"
No observation of use
Retrospective audits done
ESI usage not clear
10% more ESI 3s

stay

Acuity | **Staffing**

Root Causes

1. No Leadership accountability, 2. No standard process for the front end, 3. No flow buster prevention

V. Proposed Countermeasures

Issue	Problem	Countermeasure	Who	When
0 F/T	Too many tasks	Remove from std wk, to pt. std wk	Mary	12/5
F/T RN movement	Med dispenser problem stocking	F/T common med list	Hemal	12/5
F/T RN pulling pt.	Pulling pt not on std wk	Update std wk	Mary	12/5
0 F/T place in computer	No space or signature xxx	KAB item	WSL	
Too many greeter roles	Triage interrupted	Use walki talkie – update std wrk	Mary	12/5
Volunteers	Volunteer Staffing	KAB item	WSL	
Triage RN in pt care	No one to see pts	Update std wk	Rich	12/5
Greeter needs to greet	No one in triage area	Update std wk	Mary	12/5
Level 3 & 4	0 ETDH Hx & Trauma 0 exclusion criteria	Clarify exclusion criteria communication	Jason	12/5
CT Ordered for PIT w/Eligibility Delay	Questionable Insurance	Early eligibility Plan	Dylan	12/5
Back up at F/T	0 signage for rooms	Update MGA Std Wk	Nicki	12/5
FT MEA overwhelmed & needed supplies	No role responsibility assigned prior to pilot	Create MD std wk	Malini	12/5
Bottleneck occurred	No signal	Update SW aon walki talki	Patt	12/5
1 extra process step	Taking to 2 people	Educate to std wk	Nikki	12/5

VI. Results 12/2-12-4/15

Measure	Baseline	Target	12/3/15	12/4/15	Percent Change
Lead Time L4/L5	253 min	135 min	74 min	60 min	76%
Time From Greet to Access	59 min	10 min	55 min	44 min	25%
LWBS	7%	0%	6%	10%	3%

VII. Plan – KW #1 2nd Week Kaizen Event Dec 7-11, 2015

1. Finalize/Perfect Welcome Triage Process
2. Finalize/Perfect F/T Process
3. Initiate improvement activities for the ESI 3 Team
4. Finalize/Perfect Flow RN role and responsibility

VIII. Follow-Up – Post Kaizen Events 30, 60, 90 Day Check-ins

1. ED Standard Work Coaches
2. DMS Stat Sheet implementation
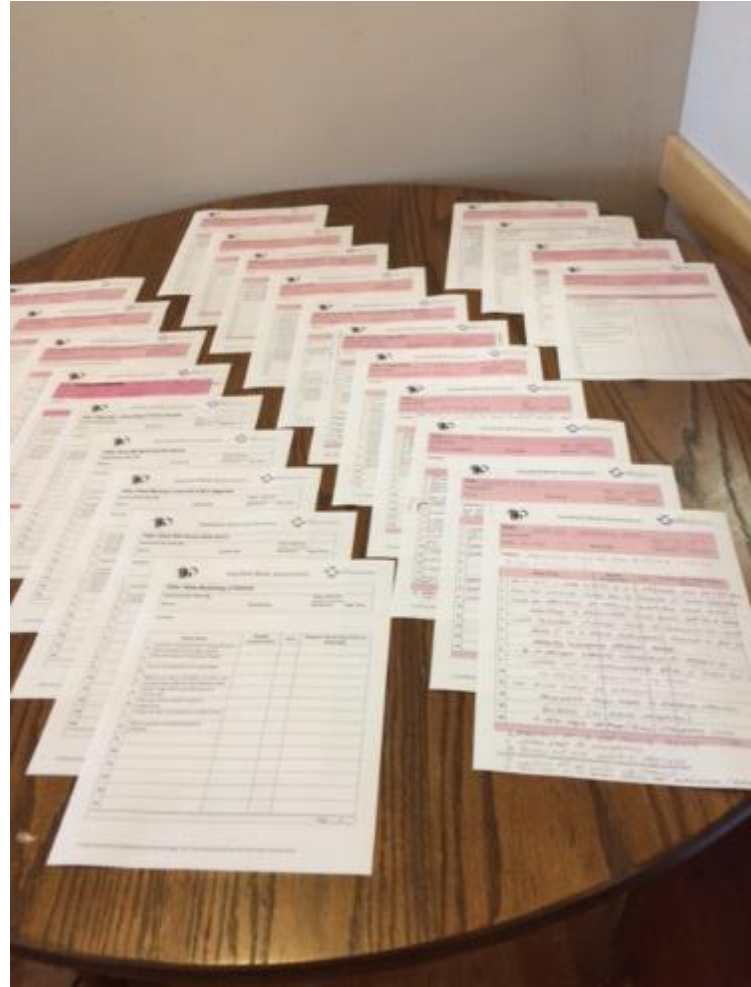3. 30, 60. 90 Day Target Sheet progress follow-Up and Tier 1 & 2 reporting

Designed and Piloted Changes– Plan, Do, Study Act Problem Solving

New Signage

Trying Fast Track behind Zone 4

Standard work created for roles and processes

25 Standard works created!

Taught/coached

Results observed during pilot of Fast Track

Measure	Baseline	Target	12/3/15	12/4/15	Percent Change
Lead Time L4/L5	253 min	135 min	74 min	60 min	76%
Time From Greet to Access	59 min	10 min	55 min	44 min	25%
LWBS	7%	0%	6%	10%	3%

What have we done/learned

- Continued with Fast Track for ESI 4/5 patients
  - Increasing hours to 7PM, then 10PM

	Baseline	Target	Fast Track
Time to provider	59 minutes	10 minutes	30 minutes
ESI 4/5 Length of stay	245 minutes	135 minutes	107 minutes
LWBS	8%	2%	3%

- Rolled out daily management system in December with status sheets: huddle board and leadership team in January
- Next Improvement Workshop for ESI 3 patients (50% of patients) planned for Feb 8-12
- Inpatient Value Stream map for the admitted patient
  - From decision to admit to discharge