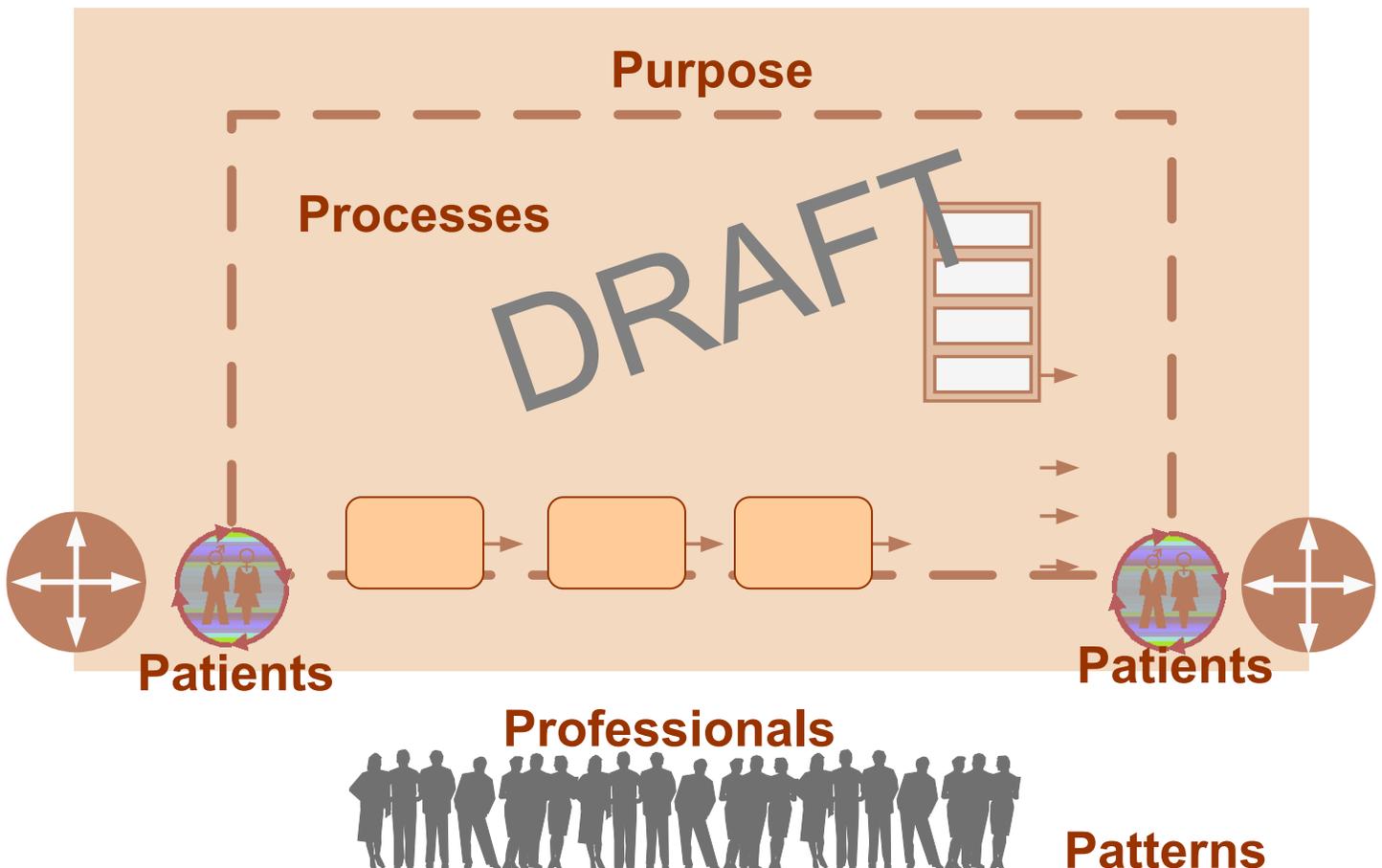


# Clinical Microsystems

“The Place Where Patients, Families and Clinical Teams Meet”

## Assessing, Diagnosing and Treating Your Emergency Department



# Strategies for Improving “The place where patients, families and clinical teams meet.”

## A Microsystem Self-Assessment, Diagnosis and Treatment Plan

Clinical microsystems are the front-line units that provide most health care to most people. They are the places where patients, families and care teams meet. Microsystems also include support staff, processes, technology and recurring patterns of information, behavior and results. Central to every clinical microsystem is the patient.

The microsystem is the place where:

- Care is made
- Quality, safety, reliability, efficiency and innovation are made
- Staff morale and patient satisfaction are made

Microsystems are the building blocks that form hospitals. The quality of hospital care can be no better than the quality produced by the small systems that come together to provide care. Here is the hospital quality equation:

$$\text{Hospital Quality} = \text{Quality of Microsystem}_1 + \text{Quality of Microsystem}_2 + \text{Quality of Microsystem}_{3-n}$$

All health care professionals—and we believe all front line clinical and support staff are professionals—have 2 jobs. Job 1 is to provide care. Job 2 is to improve care.

Finding time to improve care can be difficult, but the only way to improve and maintain quality, safety, efficiency and flexibility is by blending analysis, change, measuring and redesigning into the regular patterns and the daily habits of front-line clinicians and staff. Absent the intelligent and dedicated improvement work by all staff in all units, the quality, efficiency and pride in work will not be made nor sustained.

This workbook provides tools and methods that busy clinical teams can use to improve the quality and value of patient care as well as the work-life of all staff who contribute to patient care. These methods can be adapted to a wide variety of clinical settings, large and small, urban and rural, community-based and academic.

## The Path Forward

This workbook provides a guide for making a path forward towards higher performance. Just as you can assess, diagnose and treat patients; you can assess, diagnose and treat your clinical microsystem. This workbook is designed to guide your clinical microsystem on a journey to develop better performance. There are many good ways to improve performance; research shows that this is one of those good ways.

You can access more examples, tools and blank forms to customize at [www.clinicalmicrosystem.org](http://www.clinicalmicrosystem.org)

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**Note:** We have developed this workbook with tools to give ideas to those interested in improving healthcare. "Dartmouth-Hitchcock Medical Center and the developers of this workbook are pleased to grant use of these materials without charge, providing that recognition is given for their development, that any alterations to the documents for local suitability and acceptance are shared in advance, and that the uses are limited to their own use and not for re-sale."

## The Path Forward

### A Microsystem Self-Assessment, Diagnosis and Treatment Plan

#### Step 1: Organize a "Lead Team"

**Successful, sustainable cultural change requires the commitment and active involvement of all members of the clinical microsystem. To keep the microsystem on track and focused, a "Lead Team" of representatives of all roles should be formed.**

#### Step 2: Do the Assessment

**Assess your microsystem using the "5Ps" as your guide. Review your current performance metrics.**

- Purpose
- Patients
- Professionals
- Processes
- Patterns
- Metrics That Matter

#### Step 3: Make a Diagnosis

**Based on Step 2, review your assessment and Metrics That Matter to make your diagnosis. You should select a "Theme and Aims" for improvement based on this diagnosis and your organization strategic priorities.**

#### Step 4: Treat Your Microsystem

**Use scientific improvement methods and tools.**

#### Step 5: Follow-up

**Design and execute monitoring processes, outcomes and results. Move to your next improvement themes.**

## **STEP 1: Organize a “Lead Team”**

Assemble a “Lead Team” to represent all disciplines and roles in your department. Include MDs, RNs, NPs, CNSs, clinical support staff, clerical staff, patients and families along with any other professionals who are regularly in the department providing care and service.

Must dos:

- Lead Team should meet weekly to maintain focus, make plans and oversee improvement work
- Effective meeting skills should be used in the weekly meetings
- Monthly ALL staff meetings should be held to engage and inform all members of the department
- Explore creative ways to communicate and stay engaged with all staff on all shifts and all days of the week  
Use email, newsletters, listservs, paper, verbal, visual displays, communication boards and buddy systems
- Remember true innovation is achieved through active engagement of the patient and family with the Lead Team

## **STEP 2 Assess Your Emergency Department**

*Complete the “5Ps” assessment.* This process needs to be completed by the interdisciplinary team. Building common knowledge and insight into the microsystem by all members of the Emergency Department will create a sense of equal value and ability to contribute to the improvement activities.

**Start with Purpose.** Why does your Emergency Department exist?

Raise this question to EVERYONE in your department to create the best statement of purpose that everyone can buy into.

*Assess Your Patients, Professionals, Processes and Patterns* using the worksheets in the “Greenbook.” The aim is to create the “Big picture” of your Emergency Department to see beyond one patient at a time. Assessing the “5Ps” and then reflecting on their connections and interdependence often reveals new improvement and redesign opportunities.

*Create a timeline for the assessment process.* The whole workbook DOES NOT need to be completed within 2 weeks. Some microsystems have the capacity and resources to move quickly through the workbook in a short period of time. Many microsystems need to pace themselves through the workbook and complete the worksheets and assessment through a longer timeline. Some microsystems may need to start an important improvement immediately while starting the assessment process. In this case, the ongoing assessment will give you needed context and will help you make better improvements.

**Remember however you choose to progress through the workbook, it MUST be done within the context of your interdisciplinary team.**

Use the Data Review sheet to help outline and track which data and information will be retrieved in current systems and which data/info will be measured through a worksheet. Review the worksheets of the Assess, Diagnose and Treat Your Emergency Department workbook. Determine which worksheets you will copy and use to collect new data and information. Which worksheets will you NOT use because you have data systems that can provide useful, timely data for you without a special effort?

## Microsystem Assessment of Data Sources and Data Collection Actions

- With your interdisciplinary team, review the Assess, Diagnose and Treat workbook-“The Greenbook.” Use this form to determine which measures you can obtain from your organization and therefore, don’t need to use the worksheets. Be sure the data is current and not months old.
- Determine which worksheets will be used. Plan who, when and how the worksheets will be completed.
- Decide who oversees the compilation of each worksheet or alternative data source.

Page/Type of Data	Data Source/Data Collection Action	Date/Owner
Page 6 B Know Your Patients		
B1. Estimated Age Distribution of Patients		
B2. Living Situation		
B3. List Your Top Diagnosis/Conditions		
B4. Discharge Disposition		
B5. Patient Type-LOS average-Range		
B6. Patient Satisfaction Scores (Patient Survey pg 7)		
B7. Patient Population Census (Through the Eyes of Your Patient pg 8)		
B8. Mortality Rate		
Page 6 C Know Your Professionals		
C1. Current Staff		
Travelers		
On-Call Staff		
Per Diem Staff		
Float Pool		
C3. Supporting Diagnostic Departments		
C4. Staff Satisfaction Scores (Staff Survey pg 9) (Personal Skills Assessment pg 10 – 11) (Activity Survey pg 12)		
Page 6 D Know Your Processes		
D1. Create Flow Charts of Routine Processes		
D2. Capacity-Stretchers/Rooms and Beds		

D3. Turnovers/Bed/Year		
D4. Ambulance Service		
D5. Air Transport		
D6. Linking microsystems		
(Patient Cycle Time Tool pg 13)		
(Core and Supporting Processes pg 14)		
(High Level Flowchart pg 15)		
Page 6 E Know Your Patterns		
E1. Most Significant Pattern		
E2. Successful Change		
E3. Most Proud of		
E4. Financial Picture		
(Unplanned Activity Tracking Card pg 16)		
(Telephone Tracking Log pg 17)		
(Call Light / Alarm Tracking Log pg 18)		

# Emergency Department Profile

## A. Purpose:

Why does your department exist?

Trauma Designation:	Site Contact:	Date:
Administrative Director:	Nurse Director:	Medical Director:

**B. Know Your Patients:** Take a close look into your department, create a "high-level" picture of the PATIENT POPULATION that you serve. Who are they? What resources do they use? How do the patients view the care they receive?

Est. Age Distribution of Pts:	%	List Your Top 10 Diagnoses/Conditions	Patient Satisfaction Scores	% Excellent
Birth-2 years		1. _____ 6. _____	Greeting	
3-10 years		2. _____ 7. _____	Length of Time	
11-24 years		3. _____ 8. _____	Privacy and Comfort	
25-65 years		4. _____ 9. _____	Courtesy, Respect, Sensitivity, Friendliness	
66-75 years		5. _____ 10. _____	Time Spent with Person	
76+ years			Overall Experience	
% Females				
Living Situation	%	Discharge Disposition	Pt Population Census: Do these numbers change by season? (Y/N)	
Married		Home	# ED	# Fast Track
Domestic Partner		Admission		Y/N
Live Alone		Skilled Nursing Facility	Pt Census by Hour	
Live with Others		Other Hospital	Pt Census by Day	
Skilled Nursing Facility		Morgue/Funeral Director	Pt Census by Week	
Nursing Home		<b>Patient Type</b>	Pt Census by Year	
Homeless		Urgent	Planned Return Rate	
<b>*Complete "Through the Eyes of Your Patient", pg 8</b>		Non Urgent	Unplanned Return Rate	
		Fast Track	Frequency of Divert	
			Frequency of Inability to Admit Pt	
			<b>Mortality Rate</b>	

**C. Know Your Professionals:** Use the following template to create a comprehensive picture of your department. Who does what and when? Is the right person doing the right activity? Are roles being optimized? List all roles, total FTEs and Over-Time by role. Add roles not listed.

Current Staff	Day FTEs	Evening FTEs	Night FTEs	Weekend FTEs	Over Time by Role	Supporting Diagnostic Departments
<b>Enter names below total</b>						(e.g. Respiratory, Lab, Cardiology, Pulmonary, Radiology)
MD Total						
CNSs Total						
RNs Total						
LPNs Total						
LNAs Total						
Residents Total						
Fellows Total						
Technicians Total						
Clinical Resource Coords.						
Social Worker						
Secretaries Total						
Other Total						

Do you use Per Diems? Yes _____ NO _____	<b>Staff Satisfaction Scores</b>	%
Do you use Travelers? Yes _____ NO _____	How stressful is the department?	% Not Satisfied
Do you use On-Call Staff? Yes _____ NO _____	Would you recommend it as a good place to work?	% Strongly Agree

**\*Each staff member should complete the Personal Skills Assessment and "The Activity Survey", pg 10-12**

**D. Know Your Processes:** How do things get done in the microsystem? Who does what? What are the step-by-step processes? How long does the care process take? Where are the delays? What are the "between" Microsystems hand-offs?

1. Create flowcharts of routine processes.	Do you use/initiate any of the following?	Capacity	# Stretchers _____	# Rooms _____
a) Overall ED admission and treatment process b) Admit to Inpatient Unit c) Usual care in ED (include Fast Track) d) Change of shift process e) ED Discharge process f) Transfer to another facility process g) Adverse event h) Trauma process i) Alert status process	Check all that apply <input type="checkbox"/> Standing Orders/Order Sets <input type="checkbox"/> Critical Pathways <input type="checkbox"/> Code Response Team <input type="checkbox"/> Fast/Quick Track <input type="checkbox"/> Bedside Registration <input type="checkbox"/> Phone Care Management/Follow-up <input type="checkbox"/> Electronic Tracking <input type="checkbox"/> Web Site for Patients	<b>Ambulance Service</b>	Own _____	Other _____
		<b>Air Transport</b>	Own _____	Other _____
		<b>Linking Microsystems</b> (e.g. EMS, ICU, Inpatient Units, OR)		

**2. Complete the Core and Supporting Process Assessment Tool, pg 14**

**E. Know Your Patterns:** What patterns are present but not acknowledged in your microsystem? What is the leadership and social pattern? How often does the microsystem meet to discuss patient care? Are patients and families involved? What are your results and outcomes?

<ul style="list-style-type: none"> <li>Does every member of the department meet regularly as a team?</li> <li>How frequently?</li> </ul>	<ul style="list-style-type: none"> <li>Do the members of the department regularly review and discuss safety and reliability issues?</li> </ul>	<ul style="list-style-type: none"> <li>What have you successfully changed?</li> <li>What are you most proud of?</li> <li>What is your financial picture?</li> </ul>
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**\*Complete "Measures that Matter", pg 20**

# Patients

- Patients have valuable insight into the quality and process of care we provide. Real time feedback can pave the way for rapid responses and quick tests of change. This “Point of Service” Survey can be completed at the time of hospitalization to give real time measurement of satisfaction.
- Use the Emergency Department Profile to review “*Know Your Patients.*” Determine if there is information you need to collect or if you can obtain this data within your organization. Remember the aim is to collect and review data and information about your patients and families that might lead to a new design of process and services.
- Conduct the Patient/Family Satisfaction Survey for 2 weeks with patients/families if you currently DO NOT have a method to survey. If you have a method, be sure the data is up to date and reflects the current state of your Emergency Department.

## Patient/Family Satisfaction with Emergency Department Experience Survey “Point of Service”

Date: \_\_\_\_\_

1. Did we greet you and provide immediate assistance upon your arrival in the Emergency Department?

Excellent       Very Good       Good       Fair       Poor

2. How would you rate your experience with the length of time you waited today?

Excellent       Very Good       Good       Fair       Poor

3. Were your privacy and comfort needs met during your stay?

Excellent       Very Good       Good       Fair       Poor

4. How would you rate your satisfaction with the personal manner of the people you saw today (courtesy, respect, sensitivity, friendliness)?

Excellent       Very Good       Good       Fair       Poor

5. How would you rate your overall experience today?

Excellent       Very Good       Good       Fair       Poor

6. What would make this Emergency Department better for you?

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**Thank You For Completing This Survey**

# Patients

- Gain insight into how your patients experience your Emergency Department. One simple way to understand the patient experience is to experience the care. Members of your staff should do a "walk through" in your Emergency Department. Try to make this experience as real as possible, this form can be used to document the experience.
- You can also capture the patient experience by making an audio or videotape.

## Through the Eyes of Your Patients

### Tips for making the "walk through" most productive:

1. Determine with your staff where the starting point and ending points should be, taking into consideration the ED arrival, the actual ED visit process, follow-up, and other processes.
2. Two members of the staff should do the walk through together with each playing a role: patient and partner/family member.
3. Set aside a reasonable amount of time to experience the patient journey. Consider the usual amount of time patients spend in your ED.
4. Make it real. Have a real experience with a real clinician. Include time with lab tests and arranging for reports to be available. Sit where the patient sits. Wear what the patient wears. Make a realistic paper trail including chart, lab reports, referrals, payment arrangements and other essential documents.
5. During the walk through, note both positive and negative experiences, as well as any surprises. What was frustrating? What was gratifying? What was confusing? Again, an audio or video tape can be helpful.
6. Debrief your staff on what you did and what you learned.

Date: \_\_\_\_\_

Staff Members: \_\_\_\_\_

Walk Through Begins When: \_\_\_\_\_

Ends When: \_\_\_\_\_

Positives	Negatives	Surprises	Frustrating/Confusing	Gratifying

# Professionals

- Creating a joyful work environment starts with a basic understanding of staff perceptions of the unit. All staff members should complete this survey. Use a tally sheet to summarize results.
- Ask all Emergency Department staff to complete the Staff Survey. Often you can distribute this survey to any professional who spends time in your unit. Set a deadline of one week and designate a place for the survey to be dropped off. You may have an organization-wide survey in place that you can use to replace this survey, but be sure it is CURRENT data, not months old, and that you are able to capture the data from all professionals specific to the Emergency Department workplace.

## Emergency Department Staff Satisfaction Survey

1. I am treated with respect every day by everyone that works in this Emergency Department.

Strongly Agree     Agree     Disagree     Strongly Disagree

2. I am given everything I need—tools, equipment, and encouragement—to make my work meaningful to my life.

Strongly Agree     Agree     Disagree     Strongly Disagree

3. When I do good work, someone in this Emergency Department notices that I did it.

Strongly Agree     Agree     Disagree     Strongly Disagree

4. How stressful would you say it is to work in this Emergency Department?

Very stressful     Somewhat stressful     A little stressful     Not stressful

5. How easy is it to ask anyone a question about the way we care for patients?

Very easy     Easy     Difficult     Very difficult

6. How would you rate other people's morale and their attitudes about working here?

Excellent     Very Good     Good     Fair     Poor

7. This Emergency Department is a better place to work than it was 12 months ago.

Strongly Agree     Agree     Disagree     Strongly Disagree

8. I would recommend this Emergency Department as a great place to work.

Strongly Agree     Agree     Disagree     Strongly Disagree

9. What would make this Emergency Department better for patients?

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10. What would make this Emergency Department better for those who work here?

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# Professionals

- Development of each member in the department is a key to success for staff and the microsystem. The Personal Skills Assessment tool helps determine the education and training needs of staff. All staff members complete this survey and then discuss the action plan with leadership and other staff. A plan is developed to help members achieve goals so they can become the best they can be.
- This tool provides guidance for individual development plans along with assessing the “group” needs to plan larger learning and training sessions.

Emergency Department Resources—Personal Skills Assessment				
Name: _____		Unit: _____		
Role: _____		Date: _____		
<b>Clinical Competencies:</b>				
<i>Please create your list of clinical competencies and evaluate.</i>	<b>Want to Learn</b>	<b>Never Use</b>	<b>Occasionally</b>	<b>Frequently</b>
	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
<b>Clinical Information Systems (CIS):</b>				
<i>What features and functions do you use?</i>	<b>Want to Learn</b>	<b>Never Use</b>	<b>Occasionally</b>	<b>Frequently</b>
Provider Schedule	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Patient Demographics	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Lab Results	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Pathology	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Problem List	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Review Reports/Notes	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Documentation	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Direct Entry	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Note Templates	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Medication Lists	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Medication Ordering	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Action Taken on Surgical Pathology	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
NOTE: CIS refers to hospital or clinic-based systems used for such functions as checking in patients, electronic medical records, accessing lab and x-ray information, etc. Customize your list of CIS features to determine skills needed by various staff members to optimize their roles.				
<b>Technical Skills:</b>				
<i>Please rate the following on how often you use them.</i>	<b>Want to Learn</b>	<b>Never Use</b>	<b>Occasionally</b>	<b>Frequently</b>
CIS*	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
E-mail	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Central Dictation	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Digital Dictation Link	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
PDA (i.e. Palm Pilot)	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10

## Emergency Department Resources—Personal Skills Assessment page 2

Name: \_\_\_\_\_ Unit: \_\_\_\_\_

### Technical Skills cont'd:

<i>Please rate the following on where and how often you use them.</i>	Want to Learn	Never Use	Occasionally	Frequently
Word Processing (e.g. Word)	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Spreadsheet (e.g. Excel)	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Presentation (e.g. Power Point)	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Database (e.g. Access or File Maker Pro)	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Patient Database/Statistics	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Internet/Intranet	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Printer Access	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Fax	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Copier	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Telephone System	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Voice Mail	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Pagers				

### Meeting & Interpersonal Skills:

<i>What skills do you currently use?</i>	Want to Learn	Never Use	Occasionally	Frequently
Effective Meeting Skills (brainstorm/multi-vote)	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Timed Agendas	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Role Assignments During Meetings	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Delegation	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Problem Solving	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Patient Advocacy Process	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Open and Effective Communication	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Feedback-Provide and Receive	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Managing Conflict/Negotiation	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Emotional/Spiritual Support	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10

### Improvement Skills and Knowledge:

<i>What improvement tools do you currently use?</i>	Want to Learn	Never Use	Occasionally	Frequently
Flowcharts/Process Mapping	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Trend Charts	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Control Charts	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Plan/Do/Study/Act (PDSA) Improvement Model	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Aim Statements	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Fishbones	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Measurement and Monitoring	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
Surveys-Patient and Staff	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10
STAR Relationship Mapping	<input type="checkbox"/>	1 2 3	4 5 6 7	8 9 10

### Other Needs:

# Professionals

- What do you spend YOUR time doing? What is your best estimation of how much time you spend doing it? The goal is to have the right person doing the right thing at the right time. The group can discuss which activities are or are not appropriate for the individual's level of education, training, and licensure.
- You can start with one group of professionals such as MDs, NPs, CNSs, RNs or clerical staff, assessing their activities using the Activity Survey. This estimate of who does what is intended to reveal, at a high level, where there might be mismatches between education, training, licensure and actual activities. It is good to eventually have all roles and functions complete this survey for review and consideration. Be sure to create the same categories for each functional role. Some groups may hesitate to make time estimates; if this happens, just ask them to list their activities for the first review.

Emergency Department Activity Survey Sheet			
<b>Position: MD</b>	<b>% of Time</b>	<b>Position: RN</b>	<b>% of Time</b>
Activity: <u>See Patients in ED</u> Specific Items Involved: • Review chart history • Assess/diagnose patient • Determine treatment plan	39%	Activity: <u>Triage Patient Issues/Concerns</u> Specific Items Involved: • Phone • Face to face	15%
Activity: <u>Dictate/Document Patient Encounter</u> Specific Items Involved: • Dictate encounter • Review transcriptions and sign off	25%	Activity: <u>Patient/Family Education</u> Specific Items Involved: •	3%
Activity: <u>Write Prescriptions</u>	5%	Activity: <u>Direct Patient Care</u> Specific Items Involved: • Assist provider with patients • Nurse visits • Boarder patients	30%
Activity: <u>Complete Forms</u> Specific Items Involved: • Referrals	5%	Activity: <u>Follow Up Phone Calls</u> Specific Items Involved: •	20%
Activity: <u>Follow Up Phone Calls</u> Specific Items Involved: • Answer patient messages and requests	10%	Activity: <u>Review and Notify Pts of Lab Results</u> Specific Items Involved: • Normal with follow-up • Drug adjustment	5%
Activity: <u>Evaluate Test Results</u> Specific Items Involved: • Review results and determine next actions	5%	Activity: <u>Complete Forms</u> Specific Items Involved: • Referrals	20%
Activity: <u>Manage Charts</u> Specific Items Involved:	6%	Activity: <u>Call in Prescriptions</u> Specific Items Involved:	5%
Activity: <u>Miscellaneous</u> Specific Items Involved: • CME; attend seminars; attend meetings • •	5%	Activity: <u>Miscellaneous</u> Specific Items Involved:	2%
<b>Total</b>	<b>100%</b>	<b>Total</b>	<b>100%</b>

## Activity Occurrence Example:

*What's the next step? Insert the activities from the Activity Survey Here.*

Activities are combined by role from the data collected above. This creates a master list of activities by role. Fill-in THE NUMBER OF TIMES PER SESSION (AM and PM) THAT YOU PERFORM THE ACTIVITY. Make a tally mark by the activity each time it happens, per session. Use one sheet for each day of the week. Once the frequency of activities is collected, the practice should review the volumes and variations by session, day of week, and month of year. This evaluation increases knowledge of predictable variation and supports improved matching of resources based on demand.

Role: RN	Date:	Day of Week:		
Visit Activities		AM	PM	Total
Triage Patient Concerns				11
Patient Education				14
Direct patient Care				42
Non-Visit Activities				
Follow up Phone Calls				26
Review and Notify Patients of Lab Results				19
Complete Forms				16
Call in Prescriptions				15
Miscellaneous				5
<b>Total</b>		<b>75</b>	<b>73</b>	<b>148</b>

# Processes

- Beginning to have all staff understand the processes of care and services in the Emergency Department is a key to developing a common understanding and focus for improvement. Start with the high level process of a patient being admitted to your Emergency Department by using the Patient Cycle Time Tool. You can assign someone to track all admissions for a week to get a sample, or the cycle time tool can be initiated for all admissions in a one week period with many people contributing to the collection and completion of this worksheet.
- Typically, other processes will be uncovered to measure and you can create time tracking worksheets like this template to measure other cycle times.

## Emergency Department Patient Cycle Time Tool

Day: \_\_\_\_\_ Date: \_\_\_\_\_

**\*Note when Registration occurs in the process**

**Time**

**1. ED arrival time.**

**2. Arrival time at triage.**

**3. Time patient sat in the waiting room.**

**4. Time staff took patient to an exam room.**

**5. Time staff member saw patient in the exam room.**

**6. Time physician came into the room.**

**7. Time disposition decision made (admit, discharge).**

**8. Time nurse completed discharge instructions.**

**9. Time patient left the exam room.**

**10. Time patient arrived at check-out.**

**11. Time patient left the Emergency Department.**

**Comments:**

# Processes

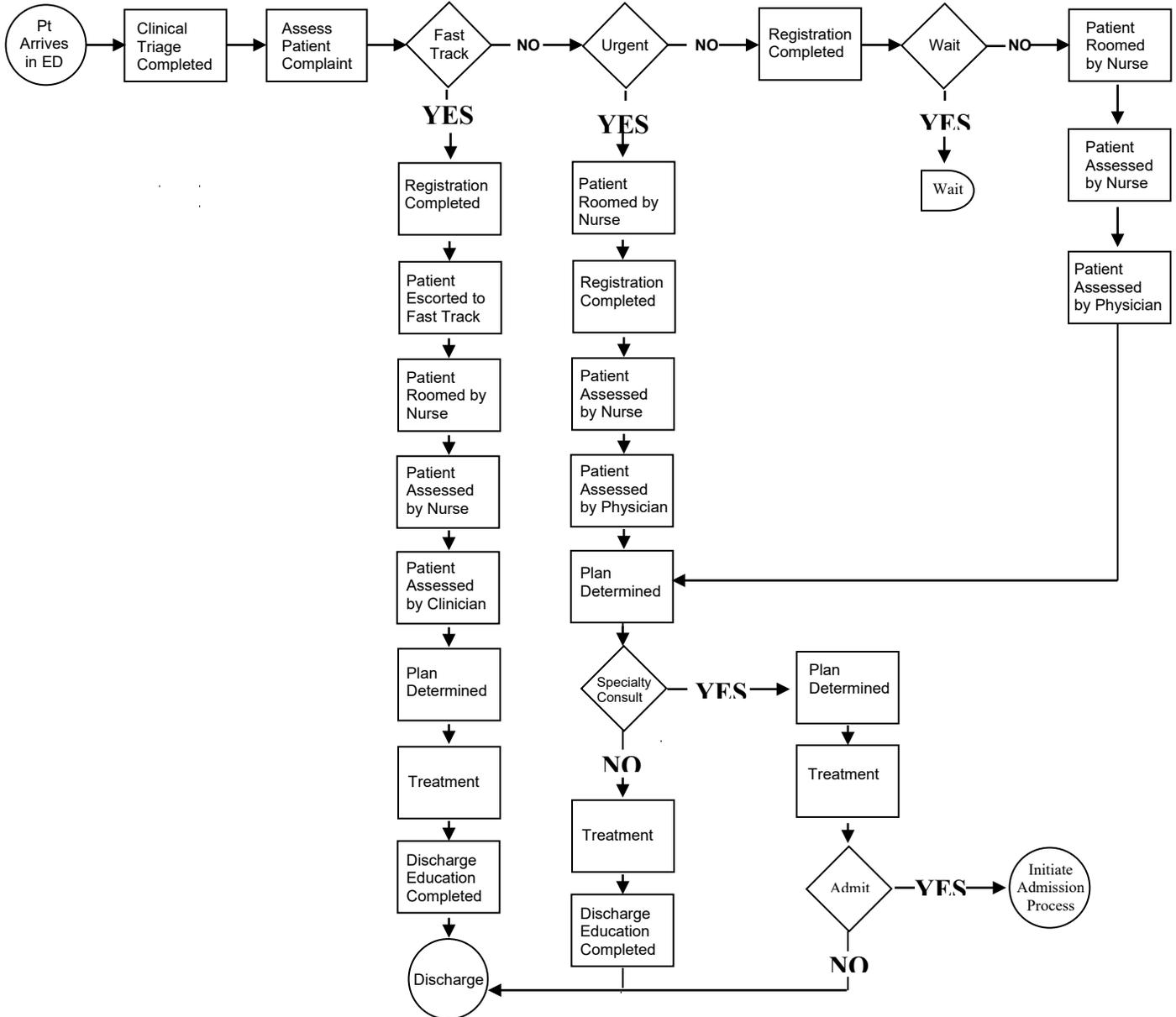
- Review, adapt and distribute the Core and Supporting Processes evaluation form to ALL Emergency Department staff. Be sure the list is accurate for your ED setting and then ask staff to evaluate the CURRENT state of these processes. Rate each process by putting a tally mark under the heading which most closely matches your understanding of the process. Also mark if the process is a source of patient complaints. Tally the results to give the Lead Team an idea as to where to begin to focus improvement from the staff perspective.
- Steps for Improvement:** Explore improvements for each process based on the outcomes of this assessment tool. Each of the processes below should be flowcharted in its' current state. Once you have flowcharted the current state of your processes and determined your Change Ideas, use the PDSA Cycle Worksheet to run tests of change and to measure.

Emergency Department Know Your Processes-Core and Supporting Processes							
Processes	Works Well	Small Problem	Real Problem	Totally Broken	Cannot Rate	We're Working On It	Source of Patient Complaint
Answer Phones							
Appointment Scheduling							
Messaging							
Scheduling Ancillaries							
Handwritten Requests for Service							
Obtaining and Labeling Specimens							
Test Results							
Registration							
Pain Control							
Medication Administration							
Timely ASA and O2 for Chest Pain Patients							
EKG within 10 minutes for Chest Pain Patient							
External Pharmacy Questions							
Make Referrals							
Pre-authorization for Services							
Billing/Coding							
Phone Advice							
Non-formulary Drug Administration							
Admission Bed Process							
Stocking Supplies							
Obtain Medical Records							
Education for Pts/Families							
Prevention Assessment/Activities							
Transfer to Inpatient Unit							
Discharge							

# Processes

- Deming has said, "If you can't draw a picture of your process you can't improve anything." He is referring to the improvement tool of process mapping. With your interdisciplinary team, create a high level flow chart of the admission process or the entire Emergency Department experience. Start with just ONE flow chart. Eventually you will wish to create flowcharts for many different processes in-and-between your department. Keep the symbols simple!
- Review the flowchart to identify unnecessary rework, delays and opportunities to streamline and improve.

## Emergency Department High Level Flow Chart



### Symbol Key:



Process beginning or end



Decision points

Process flow direction



Activity step



Waits and delays



Connector (e.g. off page)

# Patterns

- Patterns are present in our daily work and we may or may not be aware of them. Patterns can offer hints and clues to our work that inform us of possible improvement ideas. The Unplanned Activity Tracking Card is a tool you can ask staff to carry to track patterns of interruptions, waits and delays in the process of providing smooth and uninterrupted patient care. Start with any group in the staff. Give each staff member a card to carry during a shift, to mark each time an interruption occurs when direct patient care is delayed or interrupted. The tracking cards should then be tallied by each person and within each group to review possible process and system redesign opportunities. Noticing patterns of unplanned activities can alert staff to possible improvements.
- This collection tool can be adapted for any role in the department to discover interruptions in work flow. Circles in the example indicate processes to further evaluate for possible improvements.

Emergency Department Unplanned Activity Tracking Card	
<b>Unplanned Activity Tracking</b>	
Name: _____	
Date: _____ Time: _____	
<b>Place a tally mark for each occurrence of an unplanned activity</b>	<b>Total</b>
Phone Interruptions	
Support Staff Interruptions	
RN Interruptions	
Provider Interruptions	
Pages	
Missing Equipment	
Missing Supplies	
Missing Chart	
Missing Test Results	
Equipment Alarms	
Other	○
	○
	○

Unplanned Activity Tracking	
Name: _____	
Date: _____ Time: _____	
<b>Place a tally mark for each occurrence of an unplanned activity</b>	<b>Total</b>
Phone Interruptions	20
Support Staff Interruptions	15
RN Interruptions	10
Provider Interruptions	12
Pages	20
Missing Equipment	5
Missing Supplies	10
Missing Chart	
Missing Test Results	5
Equipment Alarms	
Other	○
	○
	○

# Patterns

- Patterns can be found through tracking the volumes and types of telephone calls. Review the categories on the telephone tracking list to ensure they reflect the general categories of calls your department receives. Ask clerical staff to track the telephone calls over the course of a week to find the patterns of each type of call and the volume peaks and valleys.
- Put a tally mark each time one of the phone calls is for one of the listed categories. Total the calls for each day and then total the calls in each category for the week. Note the changes in volume by the day of the week and am/pm.

Emergency Department Telephone Tracking Log															
Week of _____	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Week Total
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
<b>Nurse Care/Advice</b>															
<b>Total</b>															
<b>External Pharmacy</b>															
<b>Total</b>															
<b>Referral Information</b>															
<b>Total</b>															
<b>Precert.</b>															
<b>Total</b>															
<b>Need Information</b>															
<b>Total</b>															
<b>Message for Provider</b>															
<b>Total</b>															
<b>Message for Other Staff</b>															
<b>Total</b>															
<b>Talk with Provider</b>															
<b>Total</b>															
<b>Internal Hospital</b>															
<b>Total</b>															
<b>Emergency Medical</b>															
<b>Total</b>															
<b>DAY TOTAL</b>															

# Patterns

- Collect total data using this worksheet to see the patterns and volumes of alarms in your department.
- Use one worksheet per shift. This data can be collected by room number or by staff person.

Emergency Department Call Light / Alarm Tracking											
AM      PM      Date: _____											
<input type="checkbox"/> Lights <input type="checkbox"/> Alarm											<b>TOTAL</b>
7:00 – 8:00											
8:00 – 9:00											
9:00 – 10:00											
10:00 – 11:00											
11:00 – 12:00											
12:00 – 1:00											
1:00 – 2:00											
2:00 – 3:00											
3:00 – 4:00											
4:00 – 5:00											
5:00 – 6:00											
6:00 – 7:00											
<b>TOTAL</b>											

# Metrics That Matter

- Measures are essential for microsystems to make and sustain improvements and to attain high performance. All clinical microsystems are awash with data but relatively few have rich information environments that feature daily, weekly and monthly use of Metrics That Matter (MTM). The key to doing this is to get started in a practical, doable way; and to build out your Metrics That Matter and their vital use over time.
- Some guidelines for your consideration are listed below. Remember these are just guidelines and your microsystem should do what makes sense in the way of collecting, displaying and using Metrics That Matter.

## Emergency Department Metrics That Matter

1. **What?** Every microsystem has vital performance characteristics, things that must happen for successful operations. Metrics That Matter (MTMs) should reflect your microsystem's vital performance characteristics.
2. **Why?** The reason to identify, measure and track MTMs is to ensure that you are not "flying blind." Safe, high quality and efficient performance will give you specific, balanced and timely metrics that show:
  - a. When improvements are needed
  - b. If improvements are successful
  - c. If improvements are sustained over time, and
  - d. The amount of variation in results over time
3. **How?** Here are steps you can make to take advantage of MTMs.

### Lead Team

Work with your Lead Team to establish the need for metrics and their routine use. Quality begins with the intention to achieve measured excellence.

### Balanced Metrics

Build a balanced set of metrics to provide insight into what's working and what's not working. Some categories to consider are: process flow, clinical, safety, patient perceptions, staff perceptions, operations, and finance/costs. Avoid starting with too many measures. Every metric should have an operational definition, data owner, target value and action plan. Strongly consider using the "national" JCAHO\* and CMS\* metrics whenever they are relevant to your microsystem. Consider other "vital" metrics based on your own experience, strategic initiatives and other "gold standard" sets such as measures from NQF\* and professional organizations like ASTS\*.

### Data Owner

Start small and identify a data wall owner(s) who is guided by the Lead Team. Identify a data owner(s) for each metric. The owner will be responsible for getting this measure and reporting it to the Lead Team. Seek sources of data from organization wide systems. If the needed data is not available, use manual methods to measure. Strive to build data collection in the flow of daily work.

### Data Wall

Build a data wall and use it daily, weekly, monthly, and annually. Gather data for each metric and display it on the "data wall" reporting:

- Current value
- Target Value
- Action Plan to improve or sustain level

Display metrics as soon as possible—daily, weekly, monthly metrics are most useful—using visual displays such as time trend charts and bar charts.

### Review and Use

Review your set of metrics on a regular basis—daily, weekly, monthly, quarterly, annually. Use metrics to make needed improvements whenever possible. Make metrics fun, useful and a lively part of your microsystem development process. Discuss Metrics That Matter frequently and take action on them as needed.

\* JCAHO, Joint Commission on Accreditation of Healthcare Organizations  
CMS, Center for Medicare and Medicaid Services  
NQF, National Quality Foundation  
ASTS, American Society of Thoracic Surgeons

# Metrics That Matter

- Review the currently determined “best metrics” Emergency Departments should be monitoring.
- List your current performance in these metrics and what the targets are.

Emergency Department Metrics That Matter			
Name of Measure	Definition & Data Owner	Current & Target Values	Action Plan & Process Owner
<b>General Metrics</b>			
<b>Flow</b>			
ED LOS			
Diversions from ED			
<b>Staffing Patterns</b>			
Travelers RNs			
Moonlighter MDs			
Voluntary Turnover**			
<b>Safety</b>			
Falls per 1000 patient days**			
Workdays lost due to illness or injury #			
Incident reports			
<b>Patient Satisfaction</b>			
Overall satisfaction ##			
<b>Finance</b>			
Patient days vs operating plan			
Operating margin			
<b>Emergency Department Specific</b>			
<b>Pneumonia</b>			
Oxygenation assessment*			
Blood culture prior to antibiotics *			
Initial antibiotics consistent*			
Antibiotics < 4 hours*			
<b>AMI</b>			
Aspirin at arrival*			
Beta blocker at arrival*			
PCT < 120 minutes*			
Thrombolytics < 30 minutes*			
<ul style="list-style-type: none"> <li>• * Denotes NQF Hospital Care measure (2003)</li> <li>• ** Denotes NQF Nursing-Sensitive Care measure (2004)</li> <li>• # Denotes OSHA Safety Log measure</li> <li>• ## Denotes IHI Whole System League measure (2004)</li> </ul>			

## Step 3 Diagnose

With the Interdisciplinary Lead Team review the 5Ps assessment, Metrics That Matter, and with consideration of your organizational strategic plan, select a first “theme,” (e.g., safety, flow, reliability, patient satisfaction, supply and demand) for improvement.

- The purpose of assessing is to make an informed and correct overall diagnosis of you microsystem.
- First, identify and celebrate the strengths of your system.
- Second, identify and consider opportunities to improve your system.
  - The opportunities to improve may come from your own microsystem—based on assessment, staff suggestions and/or patient and family needs and complaints.
  - The opportunities to improve may come from outside your microsystem—based on a strategic project or external performance/quality measures.
  - Look not only at the detail of each of the assessment tools, but also synthesize all of the assessments and Metrics That Matter to “get the big picture” of the microsystem. Identify linkages within the data and information. Consider:
    - Waste and delays in the process steps. Look for processes that might be redesigned to result in better functions for roles and better outcomes for patients.
    - Patterns of variation in the microsystem. Be mindful of smoothing the variations or matching resources with the variation in demand.
    - Patterns of outcomes you wish to improve.
- It is usually smart to pick or focus on one important “theme” to improve at a time, and work with all the “players” in your system to make a big improvement in the area selected.
- Suggestions on how to make your diagnosis and select a theme follow next.

### Diagnose Your Emergency Department

#### Write your Theme for Improvement

#### Overall Theme “Global” Aim Statement

Create an aim statement that will help keep your focus clear and your work productive:

*We aim to improve:* \_\_\_\_\_  
(Name the process)

*In:* \_\_\_\_\_  
(Clinical location in which process is embedded)

*The process begins with:* \_\_\_\_\_  
(Name where the process begins)

*The process ends with:* \_\_\_\_\_  
(Name the ending point of the process)

*By working on the process, we expect:* \_\_\_\_\_  
(List benefits)

*It is important to work on this now because:* \_\_\_\_\_  
(List imperatives)

# Step 4 Treat Your Emergency Department

Draft a clear aim statement and way to measure the aim using improvement models—PDSA (Plan-Do-Study-Act) and SDSA (Standardize-Do-Study-Act).

- Now that you've made your diagnosis and selected a theme worthy of improving, you are ready to begin using powerful Change Ideas, improvement tools, and the scientific method to change your microsystem.
- This begins with making a specific aim and using Plan-Do-Study-Act (PDSA), which is known as the “model for improvement.”
- After you have run your tests of change and have reached your measured aim, the challenge is to maintain the gains that you have made. This can be done using Standardize-Do-Study-Act (SDSA), which is the other half of making improvement that has “staying power.”
- You will be smart to avoid totally reinventing the wheel by taking into consideration best known practices and Change Ideas that other clinical teams have found to really work. A list of some of the best “Change Ideas” that might be adapted and tested in your department follows the aim statement worksheet.

## Specific Aim Statement

Create a specific aim statement that will help keep your focus clear and your work productive.

**Use numerical goals, specific dates, and specific measures.**

*Specific Aim:* \_\_\_\_\_

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*Measures:* \_\_\_\_\_

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# Treat Your Emergency Department

- Once you have completed the assessment and diagnosis of your department and have a clear theme to focus on, review current best practice and Change Ideas to consider.
- The Change Ideas will continue to develop as more field testing is done and more colleagues design improvements.

## Emergency Department Change Ideas to Consider:

- 1) Time to thrombolytic treatment
  - Prehospital 12 lead use
  - Paramedic use of assessment tool/contraindication tool
  - ECG by protocol
  - Protocols for management of patients
  - Protocols for cardiology contact/faxing ECGs
  - Clear thrombolytic on-call process
  - Gradual migration to bolus medications.
- 2) Time to antibiotic administration-pneumonia
  - Pneumonia pathway
  - Triage empowerment
  - ED physician encourage to initiate antibiotic therapy ASAP
  - Pre-selected antibiotic options stocked in ED
  - Time goals set
- 3) Time to antibiotic administration, neutropenia and fever
  - Neutropenia pathway
  - Triage empowerment
  - ED physicians encouraged to initiate antibiotic therapy ASAP
  - Pre-selected antibiotic options stocked in ED
  - Time goals set
- 4) Pain management
  - Increase awareness
  - Pain assessment form in chart
  - Pain management algorithm
  - Chart monitoring and real-time feedback to increase compliance with completion of the pain scale on the initial assessment.
- 5) Fast Track Services
- 6) Bedside Registration
- 7) Enhanced Triage
- 8) High Leverage Strategies
  - Improve patient flow (Hospital wide patient flow team)
  - Reduce redundancies in data collection
  - Extend specialist's time
  - Reduce the number of handoffs of information
  - Increase communication

Consider the Change Concepts on page 295 of The Improvement Guide by Langley, Nolan, Nolan, Norman and Provost (1996). The main change categories are listed below.

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>A. Eliminate Waste</li> <li>B. Improve Workflow</li> <li>C. Optimize Inventory</li> <li>D. Change the Work Environment</li> <li>E. Enhance the Producer/Customer Relationship</li> </ul> | <ul style="list-style-type: none"> <li>F. Manage Time</li> <li>G. Manage Variation</li> <li>H. Design Systems to Avoid Mistakes</li> <li>I. Focus on the Product or Service</li> </ul> |
|---|--|

Langley G, Nolan K, Nolan T, Norman T, Provost L. *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance*. 1<sup>st</sup> ed. The Jossey-Bass Business & Management Series. San Francisco, CA: Jossey-Bass Publishers; 1996: xxix, 370.

# Huddle Sheet

- What can we proactively anticipate and plan for in our work day/week? At the beginning of the day, hold a review of the day, review of the coming week and review of the next week. Frequency of daily review is dependent on the situation, but a mid-day review is also helpful.
- This worksheet can be modified to add more detail to the content and purpose of the huddles.

## Huddle Sheet

Practice: \_\_\_\_\_ Date: \_\_\_\_\_

**Aim:** Enable the practice to proactively anticipate and plan actions based on patient need and available resources, and contingency planning.

### Follow-ups from Yesterday

**“Heads up” for Today: (include special patient needs, sick calls, staff flexibility, contingency plans)**

Meetings:

### Review of Tomorrow and Proactive Planning

Meetings:

# Treat Your Emergency Department

## Plan-Do-Study-Act PDSA

Complete the Plan-Do-Study-Act worksheet to execute the Change Idea in a disciplined measured manner, to reach the specific aim.

**Plan** → How shall we PLAN the pilot? Who? Does what? When? With what tools? What baseline data will be collected?

Tasks to be completed to run test of change	Who	When	Tools Needed	Measures

**Do** → What are we learning as we DO the pilot? What happened when we ran the test? Any problems encountered? Any surprises?

**Study** → As we study what happened, what have we learned? What do the measures show?

**Act** → As we ACT to hold the gains or abandon our pilot efforts, what needs to be done? Will we modify the change? Make a PLAN for the next cycle of change.

The Lead Team should continue to meet weekly to review progress in the design of the PDSA and then during the execution of the test of change in a pilot format to observe and learn about the Change Idea implementation. Remember to always test Change Ideas in small pilots to learn what adaptations and adjustments need to be made before implementing on a larger scale. Data collection and review during the testing is important to answer the question: How will we know if the Change Idea is an improvement?

Once the PDSA cycle is completed and the Lead Team reviews the data and qualitative findings, the plan should be revised or expanded to run another cycle of testing until the aim is achieved.

When the Change Idea has been tested and adapted to the context of the clinical microsystem and the data demonstrates that the Change Idea makes an improvement, the Lead Team should design the Standardize-Do-Study-Act (SDSA) process to ensure the process is performed as designed. During this process it is important to continually learn and improve by monitoring the steps and data to identify new opportunities for further improvement. You will realize you will move from “PDSA” to “SDSA” and back to “PDSA” in your continuous improvement environment. New methods, tools, technology or best practice will often signal the need to return to PDSA to achieve the next level of high performance. You want to be able to go from “PDSA” to “SDSA” and back to “PDSA” as needed. The Scientific method is a two-way street that uses both experimentation (i.e., PDSA) as well as standardization (i.e., SDSA).

# Standardizing Current Best Process and Holding the Gains

## Standardize-Do-Study-Act SDSA

**Standardize** the process (specify what roles do what activities in what sequence with what information flow). A good way to track and standardize process is through the creation of an Emergency Department Playbook. The Playbook is the collection of process maps to provide care and services that all staff are aware of and accountable for. The Playbook can be used to orient new staff, document current processes and contribute to performance appraisals.

**Do** the work to integrate the standard process into daily work routines to ensure reliability and repeatability.

**Study** at regular intervals. Consider if the process is being “adhered” to and what “adjustments” are being made. Review the process when new innovations, technology or roles are being considered. Review what the measures of the process are showing.

**Act** based on the above, maintain or “tweak” the standard process and continue doing this until the next “wave” of improvements/innovations takes place with a new series of PDSA cycles.

**STANDARDIZE** → How shall we **STANDARDIZE** the process and embed it into daily practice? Who? Does what? When? With what tools? What needs to be “unlearned” to allow this new habit? What data will inform us if this is being standardized daily?

Tasks to be completed to run test of change	Who	When	Tools Needed	Measures

\*Playbook-Create standard process map to be inserted in your Playbook.

**DO** → What are we learning as we **DO** the standardization? Any problems encountered? Any surprises? Any new insights to lead to another PDSA cycle?

**STUDY** → As we **STUDY** the standardization, what have we learned? What do the measures show? Are there identified needs for change or new information or “tested” best practice to adapt?

**ACT** → As we **ACT** to hold the gains or modify the standardization efforts, what needs to be done? Will we modify the standardization? What is the Change Idea? Who will oversee the new PDSA? Design a new PDSA cycle. Make a PLAN for the next cycle of change. Go to PDSA Worksheet.

## Step 5 Follow-Up

- Monitor the new patterns of results and select new themes for improvement.
- Embed new habits into daily work: daily huddles, weekly Lead Team meetings, monthly “town hall” meetings, datawalls, and storyboards.

### Follow-Up

Improvement in health care is a continuous journey.

The new patterns need to be monitored to ensure the improvements are sustained. Embedding new habits into daily work with the use of “huddles” to review and remind staff, as well as weekly Lead Team meetings keeps everyone focused on improvements and results that can lead to sustained and continuous improvements.

Datawalls, storyboards and monthly all-staff meetings are methods to embed new habits and thinking for improvement.

The Lead Team should repeat the process for newly recognized themes and improvements that are identified in the assessment and Metrics That Matter.

# Case Study

Review the example of how a microsystem was able to do their assessment, diagnosis and treatment. Included is an example of a storyboard to be used to “tell the story” of microsystem improvement and to keep all staff informed of activities and results.

## Emergency Department Case Study

An example of an Emergency Department journey through this process is presented by Geisinger Medical Center. Located in Danville, Pennsylvania, it is a Level I Regional Trauma Center. The accompanied storyboard, pg 23, provides information and data to be embedded in the department environment to “get everyone in the game” of improvement through illustration and updates of improvement progress and data.

### Description of Clinical Microsystem

**Location:** Within Geisinger Medical Center, the Emergency Department (ED), a Level 1 Regional Trauma Center averages approximately 3,100 visits per month or 23% of all hospital admissions. Of those patients admitted through the ED 16% went to critical care units. The ED embodies the spirit of emergency medicine, providing care for all patients who arrive at its doors regardless of age, ethnicity, gender, religion, social status or ability to pay. The Emergency Department also has a Fast Track area dedicated to efficient care for patients with minor problems.

**Mission:** To provide integrated emergency services for the Geisinger Health System through a balanced program of patient care, medical transport, education, research and community outreach.

### Our Development Journey

#### Getting Started

The Emergency Department is lead by a physician and nurse team who share responsibility for all Emergency Department activities across the Geisinger Health System. They conduct regular interdisciplinary meetings with their staff, using the assessment tools to help identify areas of focus for improvement activities. They established a data wall that is easily viewed by all personnel in the department. During the past year this team was also engaged in linking a Clinical Microsystem initiative to improve care of the patient presenting with chest pain.

### Assessment

Using the tools in Assessing Your Practice (Green Book) the Emergency Department team assesses the 5 P's; purpose, patients, professionals, processes and patterns. An update to this assessment is expected from the team on an annual basis.

- **Purpose:** To promote integrated emergency services for the Geisinger Health System with a focus on patients with chest pain.
- **Patients:** Patients are treated from a broad area of rural north central Pennsylvania. GMC's Emergency Department provides care for a wide variety of patients who present with a vast spectrum of illness and injuries. The ED provides care to the most severely injured patients, including those who are transported by helicopter directly from accident scenes and from other hospitals that are not equipped for Level 1 care. Patients with acute needs receive their primary care from a large network of providers as do those who have no primary care provider. The top five diagnoses are chest pain, abdominal pain, headache, fever and backache. The age distribution is relatively balanced with a slightly higher volume of patients over 50. A sample patient experience survey has been completed every six months.
- **Professionals:** The ED staff includes team and care coordinators, licensed care associates, technicians, EMS coordinators, secretarial personnel and unit desk clerks, with nine attending physicians and residents in their emergency medicine residency and other residency programs. Our staffing mix and patterns have been identified and documented. A staff satisfaction survey was completed. In addition, the staff completed an unplanned activity survey, personal needs skills assessment, telephone tracking and a patient “tour” of the unit.
- **Processes:** Our core processes have been identified and flow charts developed and posted for each. In addition, cycle time was identified for total time in ED, total wait time, and time from bed request to bed assignment.
- **Patterns:** Our *Metrics That Matter* are listed at [www](#)

## Emergency Department Case Study

**Diagnosis:** The team strengths include their commitment to excellent patient care and meeting individual patient needs. There is evidence of strong relationships with colleagues both internal and external to GMC. Safety is openly discussed. The opportunities identified include a need for broader exposure to improvement knowledge, data transparency, optimization of existing data and more general staff inclusion in research/improvement projects.

**Treatment:** The team satisfaction surveys continue to score high with the primary dissatisfier being boarded patients waiting for inpatient beds and communication gaps. The ED data wall has increased visibility however more frequent updates are planned. Work continues on optimizing data and increasing awareness and participation in research/improvement projects. Regular interdisciplinary meetings are a challenge in this environment but must be continued.

**Results:** More front line staff recognition of the ED as a Clinical Microsystem is apparent. Patient satisfaction has increased since the work was begun. Additional, regular engagement of the extended ED staff and related Clinical Microsystems into improvement work is critical to achieving the next level of improvement.

### **Looking Back: Reflections on Lessons Learned**

**Key Take Home Lessons:** Stepping back to complete the assessment of the Emergency Department provided the microsystem with validation of their improvement initiative as well as identifying new opportunities for improvement. Using the success characteristics the team can better focus in areas that will optimize care for their patients.

**Conclusion, Accomplishments and next Steps:** This has been a valuable learning experience for the Emergency Department microsystem. Next step opportunities have been identified and are in progress. Increased rigor around planning time (more regular interdisciplinary meetings) to enable change is being tried. They will also be focusing on more consistent huddles, data presentation and awareness and working between microsystems to optimize the patient's journey.

# Emergency Department—Geisinger Medical Center

**Purpose** To promote high quality, integrated emergency services for the population within and traveling through the Geisinger Health System service area.

**Specific Aim** To enhance the triage and diagnosis of patients presenting with chest pain

## Team Leaders:

John Skindcielewski, MD  
 Charmaine Tetkoskie, RN  
 Stefan Rosenbach, MD  
 Beverly Casey, RN  
 Lani Kishbaugh, RN  
 Kim Rankin, RN  
 Michele Mitchell, RN  
 Kristina McGann  
 Lissa Bryan-Smith

## Background

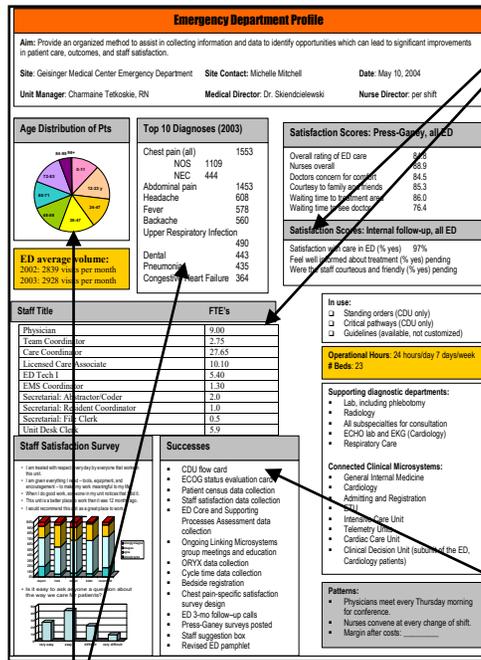
\*Initial work improving care for chest pain patients through multiple microsystems  
 \*Stepped back to fully observe and assess the ED  
 \*Identified action steps to improve the diagnosis and disposition of patients presenting with chest pain.

## Timeline

•Initial meetings – Fall 03  
 •Observations & Assessment – Spring 04  
 •PDSA Cycles – Spring 04 to present  
 •Renewed focus on AMI – Fall 04

## Methodology

ED Microsystem team evaluated their **purpose, patients, people, processes and patterns**

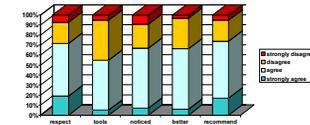


## PROFESSIONALS

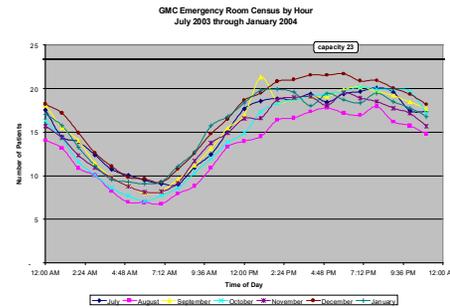
Employee Satisfaction Data: Staff Survey

I am treated with respect every day by everyone that works in this unit.  
 I am given everything I need – tools, equipment, and encouragement – to make my work meaningful to my life.

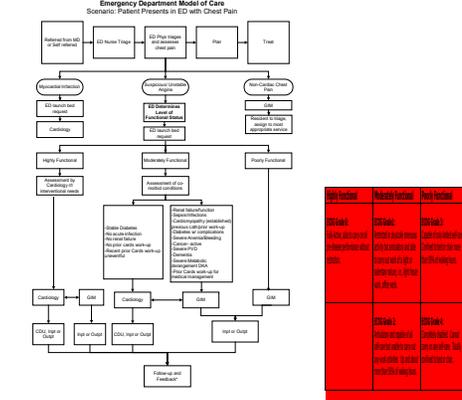
- When I do good work, someone in my unit notices that I did it.
- This unit is a better place to work than it was 12 months ago.
- I would recommend this unit as a great place to work.



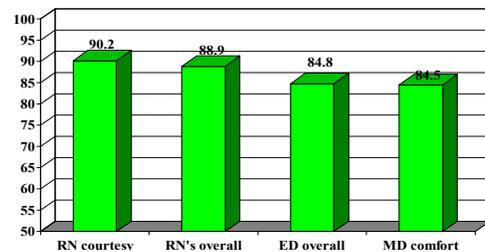
## PATTERNS



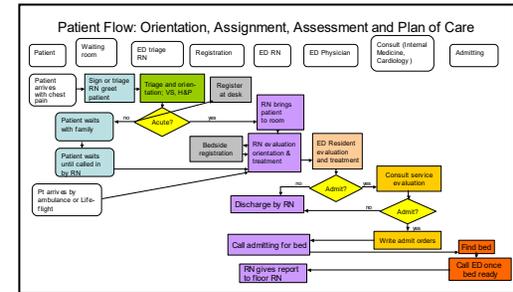
## RESULTING CHANGE



## PATIENTS ED High Scoring Areas



## PROCESSES



## Core Process Assessment: Kudos

- ED attending assessment
- ED resident assessment
- EKG in 10 minutes
- Timely administration of aspirin and oxygen
- Use of Evidence-Based Medicine
- ED RN assessment

## PATTERNS

### Balanced Scorecard

**Aim:** Using the Emergency Department as the unit of analysis, present data on performance to identify areas of improvement.

