



California
ED Diversion Project
Appendix
July 2009



Prepared for
California HealthCare Foundation



by
The Abaris Group
abarisgroup.com

Table of Contents

About CHCF and The Abaris Group _____ 2

Advisory Group_____ 4

Summit & Didactic Speakers_____ 5

Site Visit Participants _____ 6

Scoring Tool for Initial Site Collaborative Nomination_____ 7

California ED Diversion Project Participants by Region _____ 8

Map of Participants _____ 9

EMSA Commitment Letter to Collaborative _____ 10

Hospital Commitment Letter to Collaborative _____ 11

Demographics of Collaborative Participants_____ 13

Diversion Hour Trends by Participant_____ 14

Table of KPIs and Definitions _____ 21

Regional Diversion Policy Table_____ 28

Best Practice Initiatives _____ 30

Specific Collaborative Evaluation Comments _____ 43

ABOUT CHCF AND THE ABARIS GROUP

The California HealthCare Foundation (CHCF)

The CHCF mission statement is: *to expand access to affordable, quality health care for underserved individuals and communities and to promote fundamental improvements in the health status of the people of California.* CHCF is an independent philanthropy committed to improving the way health care is delivered and financed in California. By promoting innovations in care and broader access to information, their goal is to ensure that all Californians can get the care they need, when they need it, at a price they can afford. CHCF commissions research and analysis; publishes and disseminates information; convenes meetings of key health care groups; and funds development of programs and models aimed at improving health care in California.

We are grateful to the CHCF for its support and to Dave O’Neil, JD, MPH and his team for their assistance in this project and the advisory committee members.

The Abaris Group

The Abaris Group is a consulting firm that specializes in emergency, inpatient and outpatient services. The firm provides clients with assistance on a wide range of topics including strategic planning, operational improvement, and financial enhancement to help them achieve their goals.

Project Faculty

Mike Williams, MPA/HSA – Project Director and President of The Abaris Group

Mike has personally managed greater than 100 ED projects requiring a review of operations and finances to strengthen program delivery and the overall financial viability of emergency services. Mr. Williams’ consulting experience with EDs and freestanding ambulatory care clinics is extensive. His work has involved significant research as well as the planning and implementation of ED reengineering plans. Recent accomplishments include projects that involved the study, design and process reengineering through Urgent Matters (urgentmatters.com), which was a ten hospital national collaborative funded by the Robert Wood Johnson Foundation. He is the author of many papers on ED organization and design, on the editorial board for *The ED Manager*, faculty at Harvard’s Graduate School of Design for the course “The Future Design of EDs” and a frequent contributor to The Advisory Board.

Pamela J. Turner, RN, MBA/HCM – The Abaris Group, Senior Consultant

Pam has over 20 years of extensive experience in the emergency medicine field. She has spent most of her professional career in emergency services. Through her leadership, Pam has developed delivery systems providing outstanding customer service, using innovative approaches in emergency care. Pam helped in the design and development of a 54 bed Emergency Critical Care Center. She was instrumental in successful design and implementation of a Rapid Treatment Center (which won the national EmCare Genesis Award in 2004 as a best practice to ED throughput and improving patient satisfaction), Transitional Unit, Clinical Decision Unit, Operational Center and setting up an ED Information System. Pam was integral in moving her community to a no divert county. Pam has aided several hospitals, EDs and outpatient clinics in operational and design projects. Pam completed her nursing degree from St. Mary’s College, Omaha, NE and her Master’s of Business Administration from the University of Phoenix.

Maggie A. Borders, RN, MHA - The Abaris Group, Senior Consultant

Maggie has over a decade of leadership experience in the ED and pre-hospital (rotor-wing air medical) setting. She has led many process improvement initiatives throughout the hospital, successfully engineering numerous best practices such as the Capacity Command Center, Admission/Discharge/Transfer (ADT) Unit, Fast Track Program, and Clinical Decision Unit. A well-rounded speaker, some of her recent presentations include “Operation PULL: Pulling Together for Excellence” (Urgent Matters); “Determining Financial Feasibility of a Clinical Decision Unit in a Crowded Level I Trauma Center”; “Implementing Cutting Edge Communications Technology in the ED”; and “Revenue Opportunities in the Emergency Department”. She is an Alumni Board Member and is a part-time faculty member at the University of Kentucky Martin School of Public Policy and Administration. Maggie’s publications include emergency care topics by the Journal of Emergency Nursing, Mosby’s Emergency Nursing Reference, and an IT study published by the CHCF.

Bill Bullard – The Abaris Group Senior Consultant

Bill has 20 years of experience in emergency services including both public and private agencies. His experience ranges from system analysis and strategic planning to proposal development and innovative contracting with EMS providers, hospitals, and health plans throughout Northern California. Bill has spoken nationally on ambulance transportation, contracting and multi-system hospital models. With The Abaris Group, Bill has conducted a number of strategic EMS and hospital studies which included proposal development. He is the co-author of the publication *The Ambulance Industry Report* (The Abaris Group, May 2005), which involved extensive reimbursement research and trending. Bill obtained his Bachelor of Science in Management with a concentration in Marketing from Rensselaer Polytechnic Institute (RPI) in 1990.

Juliana Boyle, MBA – The Abaris Group, Economist

Juliana has worked as a consultant/economist for The Abaris Group for over thirteen years. She works on various community-wide and emergency medical service projects, specifically analyzing relevant health care data and making recommendations based on these findings.

Juliana has a Bachelor's of Arts in Economics from the University of New Mexico and a Master's in Business Administration from Saint Mary's College of California.

Kathleen Hurley, BA – The Abaris Group, Research Analyst

Kathleen Hurley is a research analyst at The Abaris Group. She has worked with The Abaris Group on a variety of projects relating to emergency healthcare. She received a BA in both Economics and Asian Studies at Lehigh University.

ADVISORY GROUP

The project was overseen by an advisory group of industry and association leaders at the local and state levels. The multidisciplinary advisory group provided advice and guidance to the project and met periodically throughout the project. The following table is the advisory group membership.

ADVISORY GROUP MEMBERSHIP		
Member	Title	Organization
Ken Cohen	Director	San Joaquin County Health Care Services Agency
Brent Eastman, MD	Chief Medical Officer	Scripps Health
Mark Gambel	Regional Vice President, Los Angeles	Hospital Association of Southern California
Jay Goldman, MD	National Medical Director, Ambulance Services/EMS	Kaiser Permanente
Bruce Lee	EMS Administrator	Santa Clara County EMSA
Ronet Lev, MD	ED Physician, Chair EMOC	San Diego County
Frank Mass, RN	ED Director	Little Company of Mary Hospital
Donna Matney, RN	Assistant Director of Nursing	Santa Clara Valley Medical Center
Erica Murray	Senior Policy and Program Associate	California Association of Public Hospitals & California Health Care Safety Net Institute
Jan Ogar, RN	Clinical Coordinator	San Mateo County EMSA
Debby Rogers	Vice President, Quality and Patient Safety	California Hospital Association
Bonnie Sinz	EMS Section Chief	California EMSA
Mike Wall	President	Northridge Hospital Medical Center
Judith Yates	Vice President/COO	Hospital Council of San Diego and Imperial Counties

SUMMIT & DIDACTIC SPEAKERS

We like to recognize the many expert speakers who provided subject matter to the participants throughout the project during the summits and didactic calls:

SUMMIT & DIDACTIC SPEAKERS	
Presenter	Organization
Art Lathrop	Contra Costa EMSA - EMS Administrator
Asa (Peter) Viccellio, MD, FACEP	SUNY at Stony Brook Department of Emergency Medicine - Vice Chair
Bruce Siegel, MD, MPH	George Washington University
Bryan Cleaver	Coastal Valley EMSA - Interim EMS Administrator
Dan Lynch	Central California EMSA - EMS Administrator
David Hnatow, MD, FAAEM, FACEP, FACFEI	South Texas Poison Center, University of Texas Health Science Center at San Antonio - Associate Professor & Chief of Emergency Medicine University Hospital Emergency Center - Medical Director
Kathy Kopka, RN, BS	Senior Consultant, The Abaris Group
Kent Lawson	IDEO - Health Practice Lead in Business & Relationship
Kirk Jensen, MD, MBA, FACEP	BestPractices - Chief Medical Officer IHI - Chair for Improving Flow Through Acute Care Settings IHI - Chair for Operational Clinical Improvement in the Emergency Department
Martin Buser, MD Roger A. Heroux, PhD	Hospitalist Management Resources
Shari Welch, MD	LDS Hospital - Quality Improvement Director

SITE VISIT PARTICIPANTS

Below is a table listing the participants in the initial round of site visits for the collaborative.

CALIFORNIA ED DIVERSION PROJECT EMSA AND HOSPITAL SITE VISIT PARTICIPANTS	
EMSA Region/Hospital	Location
Contra Costa	Martinez
John Muir - WC	Walnut Creek
John Muir - Concord	Concord
Sutter - Delta	Antioch
Inland Counties	San Bernadino
Loma Linda University Medical Center	Loma Linda
Arrowhead Regional Medical Center	Colton
Los Angeles	Commerce
Methodist Hospital	Arcadia
Beverly Community Hospital	Montebello
Presbyterian Intercommunity Hospital	Whittier
Santa Clara	San Jose
Regional Medical Center	San Jose
Stanford Hospitals and Clinics	Stanford
Santa Clara Valley Medical Center	San Jose
Santa Cruz	Santa Cruz
Dominican Hospital	Santa Cruz
Watsonville Community Hospital	Watsonville
San Diego	San Diego
Sharp Chula Vista	Chula Vista
Kaiser Permanente	San Diego
Palomar Medical Center	Escondido
San Joaquin	French Camp
St. Joseph's Medical Center	Stockton
Sutter Tracy Community Hospital	Tracy
San Joaquin General Hospital	French Camp
Ventura	Oxnard
Los Robles Hospital and Medical Center	Thousand Oaks
Saint John's Medical Center	Oxnard
Simi Valley Hospital	Simi Valley
Ventura County Medical Center	Ventura

SCORING TOOL FOR INITIAL SITE COLLABORATIVE NOMINATION

The regions highlighted in yellow are the proposed nominated regions for Phase II - Note: Ventura County with the highest hours has the most to gain and is currently assessing their hospital interest and may require a score change.

CALIFORNIA ED DIVERSION PROJECT EMS REGION KEY ATTRIBUTES COMPARISON									
	Contra Costa	Santa Clara	Santa Cruz	Inland Counties	Los Angeles	San Joaquin	Sacramento	Ventura	San Diego
2006 Population	1,029,377	1,773,258	262,351	2,023,941	10,245,572	666,265	1,385,607	817,346	3,066,820
Number of EDs	8	10	2	20	70	7	9	8	18
2006 Total Diversion Hours	1,674	2,546	686	22,318	102,609	196	6,644	10,836	21,771
Diversion Hours per ED Bed	9	11	19	69	72	3	39	101	54
Percent of Time on Diversion	2.4%	2.9%	3.9%	12.7%	16.7%	0.3%	8.4%	15.5%	13.8%
Past Success	Not applicable - best practice	4	4	3	4	4	3	1	4
Future Success		4	4	3	2	4	3	4	1
Current LEMSA Monitoring		4	3	4	4	2	2	1	2
LEMSA Commitment		4	4	4	4	3	1	4	1
Hospital Commitment		4	4	4	4	4	4	2	4
Oversight/Accountability		3	3	3	3	2	2	1	2
Phase III LEMSA Potential for Success		4	4	4	4	4	4	5	1
Phase III Hospital Potential for Success		4	4	4	4	4	4	4	3
Total Score			31	30	29	29	27	23	22

Note: The ultimate nominations were adjusted based on Advisory Group input to replace Santa Cruz County which has low diversion hours with Ventura County, which has high diversion hours.

CALIFORNIA ED DIVERSION PROJECT PARTICIPANTS BY REGION

The lists the EMSAs and hospitals that participated in the collaborative.

CALIFORNIA ED DIVERSION PROJECT PARTICIPANTS BY REGION	
EMS Regions/Hospitals	City
LA County EMSA	Commerce
St. Francis Medical Center	Lynwood
Presbyterian Intercommunity Hospital	Whittier
Methodist Hospital, Arcadia	Arcadia
San Bernadino County ICEMA	San Bernadino
Arrowhead Regional Medical Center	Colton
Loma Linda University Medical Center	Loma Linda
St. Mary Medical Center	Apple Valley
Santa Clara County EMSA	San Jose
Regional Medical Center of San Jose	San Jose
Ventura County EMSA	Oxnard
Community Memorial Hospital	Ventura
Simi Valley Hospital	Simi Valley
St. John's Regional Medical Center	Oxnard
Ventura County Medical Center	Ventura

MAP OF PARTICIPANTS



EMSA COMMITMENT LETTER TO COLLABORATIVE

The following letter was signed by the EMS Administrator at each of the participating EMSAs.

August 2, 2007

Virginia Hastings, EMS Administrator
ICEMA EMS Agency
515 N. Arrowhead
San Bernardino, CA 92415

Dear Virginia:

The California ED Diversion Project is a project being conducted by The Abaris Group and supported by the California HealthCare Foundation, based in Oakland, California. The project's goal is to measure and publicly report the extent of ambulance diversion by emergency medical services (EMS) area and hospital, identify best practices to minimize diversion, and help to implement best practices in less successful communities.

Your county and a sample of its hospitals have been chosen to participate in the third collaborative phase of the project. The collaborative phase will allow you to set goals on capacity building and diversion reduction strategies, which will be supported by a national panel of faculty experts who will coach your staff through the necessary change processes.

Only four regions have been chosen for this important project and the in-kind technical assistance that will be provided to all participants. The Abaris Group has listed some of the benefits and commitments being asked of the EMS agencies that have been selected to participate:

EMSA Obligation:

- Nominate hospitals proposed to be involved
- Attend each of the three summits (first is scheduled for August 21, 2007 in Los Angeles)
- Provide a lead staff person to coordinate meetings and county activities
- Assist with communicating with the hospital and their EMS providers
- Establish a EMS/ED Diversion Task Force to look at diversion trends, revise the regional policy, set goals and monitor regional progress
- Provide biweekly regional data reports on the project web site for the project

The project website is: www.caeddiversion.com.

Thank you for your willingness to participate on this project. Your signature below assures your participation in the program. Please call me with any questions about this project and your participation.



Mike Williams
President

EMSA Commitment to the California ED Diversion Project

I, Virginia Hastings agree to the provisions provided in the commitment letter dated August 2, 2007.

Virginia Hastings
EMS Administrator
ICEMA EMS Agency

Date

HOSPITAL COMMITMENT LETTER TO COLLABORATIVE

The following letter was signed by the chief executive officer at each of the participating hospitals.

August 2, 2007

Gerald Kozai, CEO
St. Francis Medical Center
3630 East Imperial Highway
Lynwood, CA 90262

Dear Mr. Kozai:

The California ED Diversion Project is a project being conducted by The Abaris Group and supported by the California HealthCare Foundation, based in Oakland, California. The project's goal is to measure and publicly report the extent of ambulance diversion by emergency medical services (EMS) area and hospital, identify best practices to minimize diversion, and help to implement best practices in less successful communities.

Your hospital has been chosen to participate in the third collaborative phase of the project. The collaborative phase will allow you to set goals on capacity building and diversion reduction strategies, which will be supported by a national panel of faculty experts who will coach your staff through the necessary change processes.

Only four regions have been chosen for this important project and the in-kind technical assistance that will be provided to all participants. The Abaris Group has listed some of the benefits and commitments being asked of the hospitals that have been selected to participate:

Hospital Benefits:

- One of only a few selected hospitals throughout the state to receive this in-kind mentoring/consulting service
- Receive initial detailed and hospital customized assessment of key steps and interventions to improve ED and hospital capacity and to reduce diversion
- Invitation to three project "summits" with national experts on ED and hospital throughput strategies and detailed accelerated methods to implement and sustain successful changes throughout the hospital
- Access to a password protected web site with 60 plus advanced best practices designed to dramatically improve capacity and reduce diversion hours
- Monthly mentoring and bimonthly didactic education conference calls from nationally recognized speakers
- Quarterly sites visits by expert faculty
- Project mentoring/consulting will come from a national expert faculty
- Hospital will be recognized and identified as a "best practice" participant upon the successful conclusion of the project.
- In-kind resources provided by the Foundation are estimated to be approximately \$100,000 per hospital

Hospital Obligations:

- Agree in writing to participate at the executive, medical staff leadership, department manager and staff involvement
- Commitment to participate for one year (52 weeks)
- Attendance at the three summits and monthly conference calls
- Identification of a hospital "project champion"
- Identification of an "executive sponsor", which is a senior manager that will report to the CEO who agrees to clear roadblocks and support the champion
- Establishment of a number of ED and inpatient teams (determined by the hospital) to develop a plan and implement changes on throughput and capacity (typically 3 to 6 members per team with biweekly meetings)
- Allow the executive sponsor and champion to make periodic presentations to senior management and their governing board on project goals, accomplishments and on their KPI targets as defined by the hospital
- Access to hospital QI and data analysts to support the hospital's involvement in the project.
- Biweekly web based reporting on project progress and with data on key performance indicators (KPIs)
- Access to project steering group quarterly to report on progress and to receive input from expert faculty
- Work with the local EMS agency on developing and implementing regional EMS diversion saturation and standardized ED diversion policies

The project website is: www.caeddiversion.com.

Thank you for your willingness to participate on this project. Your signature below assures your participation in the program. Please call me with any questions about this project and your participation.

Sincerely,



Mike Williams
President

Hospital Commitment to the California ED Diversion Project

I, Gerald Kozai agree to the provisions provided in the commitment letter dated August 2, 2007.

Gerald Kozai, CEO
St. Francis Medical Center

Date

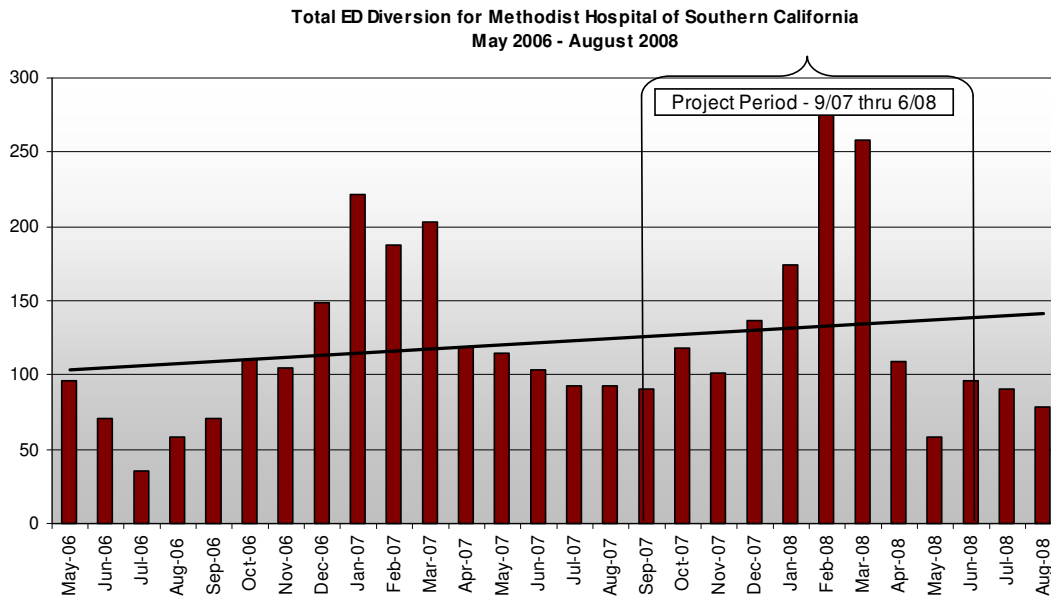
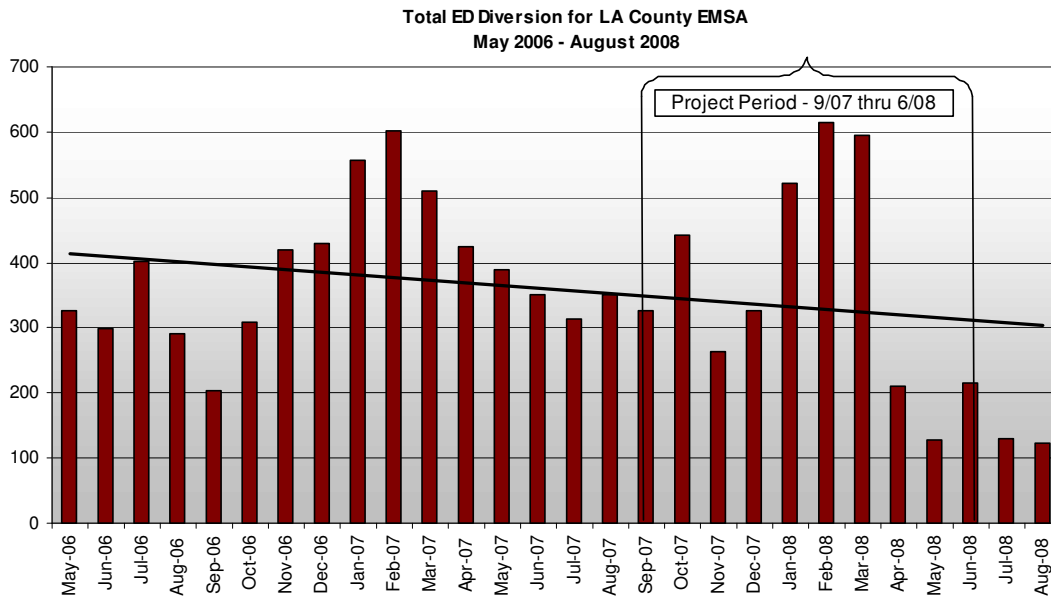
DEMOGRAPHICS OF COLLABORATIVE PARTICIPANTS

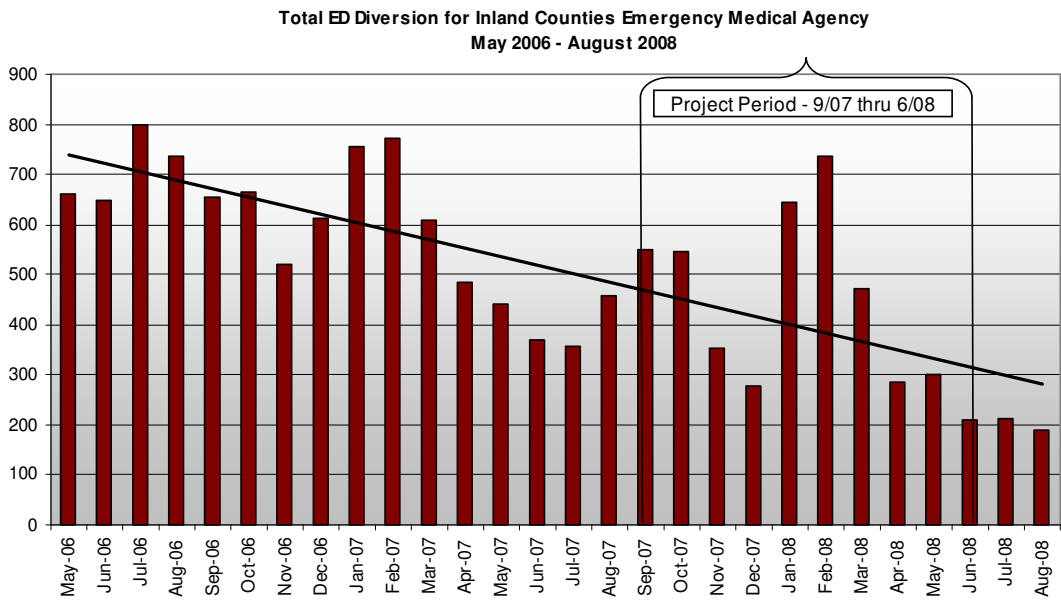
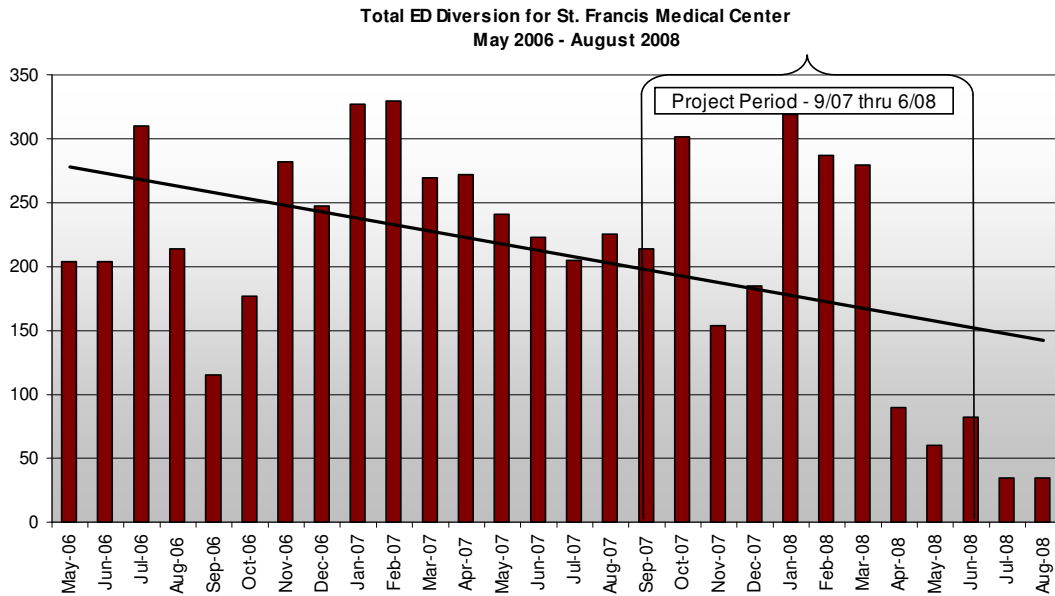
CALIFORNIA ED DIVERSION PROJECT EMSA AND HOSPITAL DEMOGRAPHIC DATA, 2006									
Hospital	Location	System Affiliation	Licensed Bed Capacity	Occupancy	Payer Mix				
					Medicare	Medi-Cal	County Indigent	Other Third Party	Other
Los Angeles County EMSA									
Methodist Hospital Southern California	300 West Huntington Drive Arcadia, CA 91007	n/a	434	50.9%	38.0%	15.5%	0.0%	39.3%	7.3%
Presbyterian Intercommunity Hospital	12401 East Washington Blvd. Whittier, CA 90602	Interhealth Corporation	409	51.5%	37.2%	9.2%	0.0%	48.5%	5.0%
St. Francis Medical Center	3630 Imperial Highway Lynwood, CA 90262	Daughters of Charity Healthcare Systems	314	79.0%	15.5%	56.6%	2.5%	21.0%	4.4%
San Bernardino County, ICEMA									
Arrowhead Regional Medical Center	400 North Pepper Avenue Colton, CA 92324-1801	San Bernardino County	283	77.8%	10.7%	42.8%	18.0%	5.5%	22.9%
Loma Linda University Medical Center	11234 Anderson Street Loma Linda, CA 92354	Seventh Day Adventist Network	709	73.7%	21.5%	28.3%	0.1%	45.9%	4.2%
St. Mary Medical Center	18300 Highway 18 Apple Valley, CA 92307	St. Joseph Health System	186	70.6%	22.7%	21.4%	0.1%	47.3%	8.6%
Ventura County EMSA									
Community Memorial Hospital	147 N. Brent Street Ventura, CA 93003-2854	Community Memorial Health System	242	61.0%	6.0%	73.6%	0.0%	18.8%	1.6%
Simi Valley Hospital	2975 North Sycamore Drive Simi Valley, CA 93065	Adventist Health	109	51.1%	37.0%	11.2%	0.0%	44.7%	7.1%
St. Johns Regional Medical Center	1600 North Rose Avenue Oxnard, CA 93030	Catholic Healthcare West	265	68.5%	30.2%	16.9%	0.0%	37.0%	15.9%
Ventura County Medical Center	3291 Loma Vista Road Ventura CA 93003-3099	Ventura County	223	58.1%	8.7%	55.5%	2.0%	19.8%	14.0%

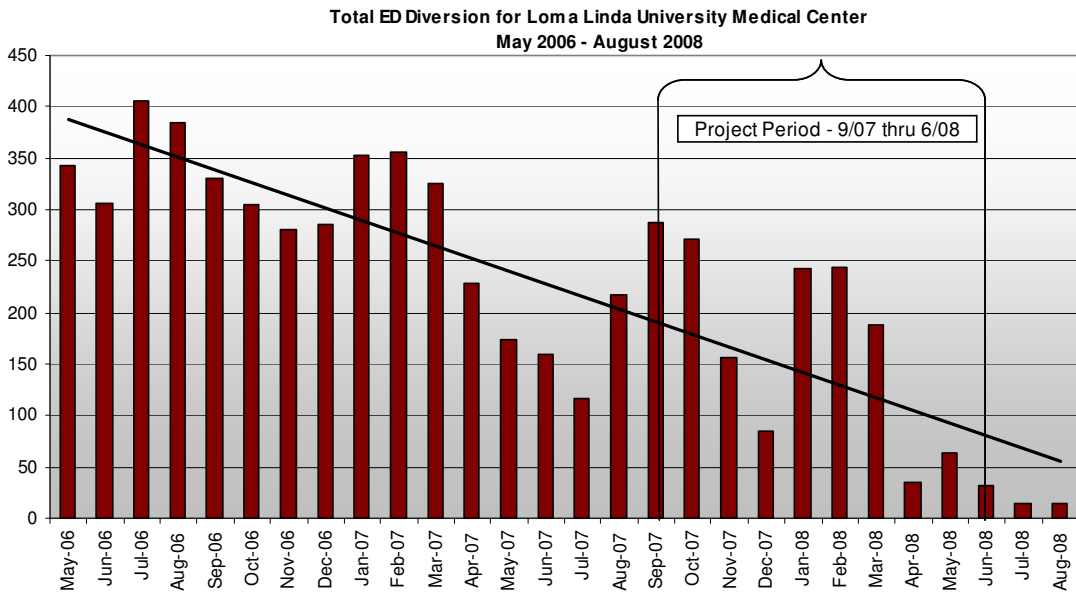
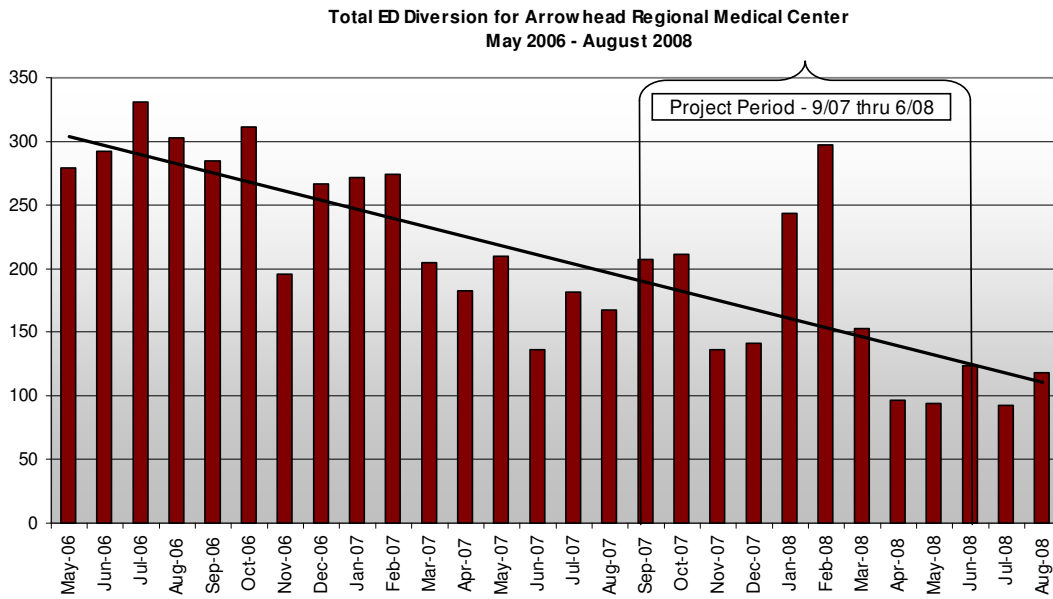
Source: OSHPD Hospital Utilization and Annual Financial data, 2006

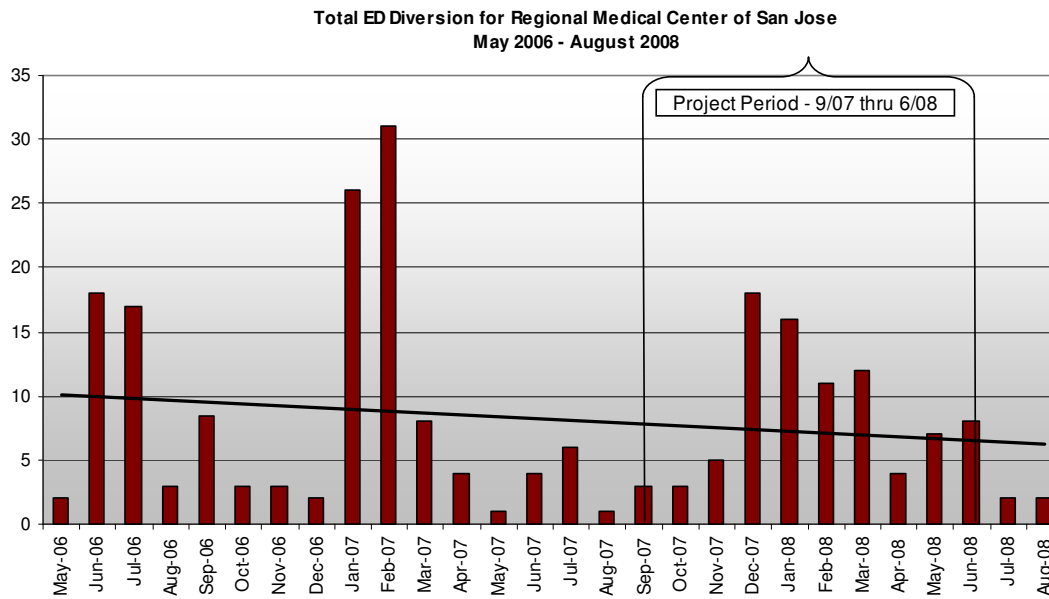
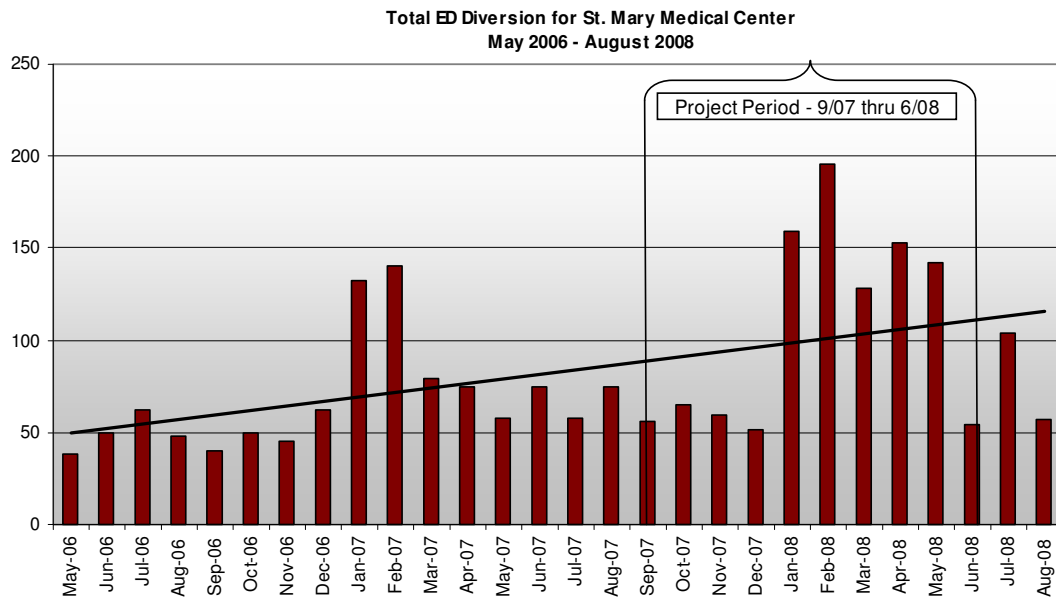
DIVERSION HOUR TRENDS BY PARTICIPANT

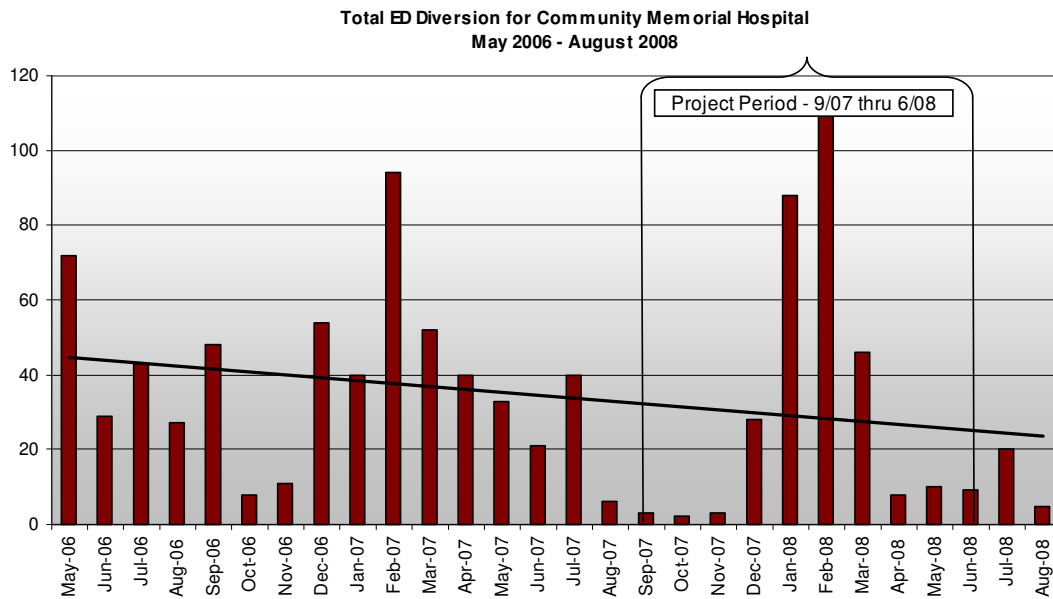
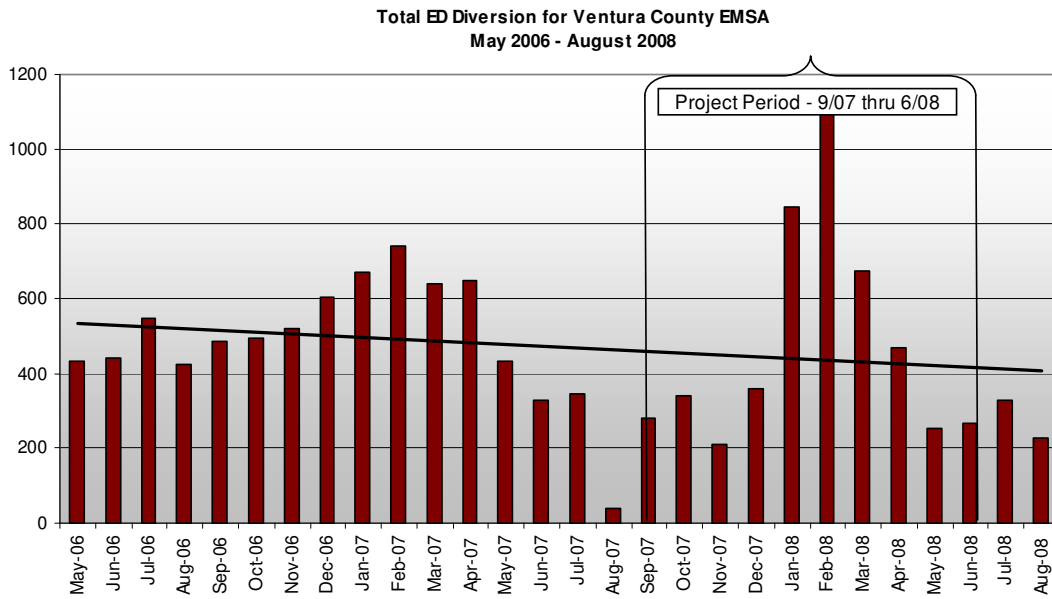
The following charts show the trend in diversion hours for each participating LEMSA and hospital from May 2006 through August 2008. They are presented in alphabetical order by LEMSA.

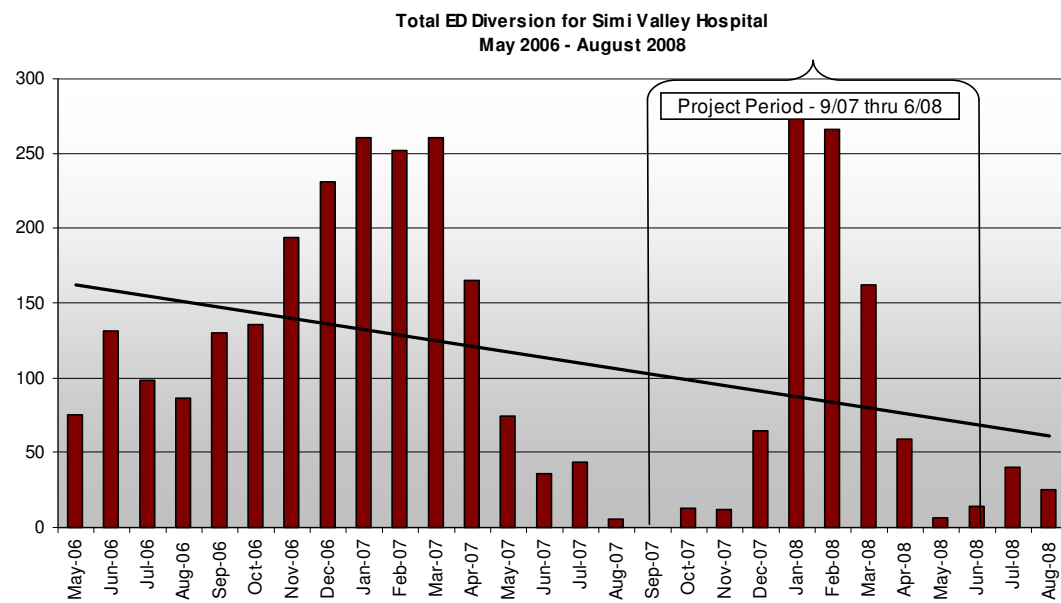
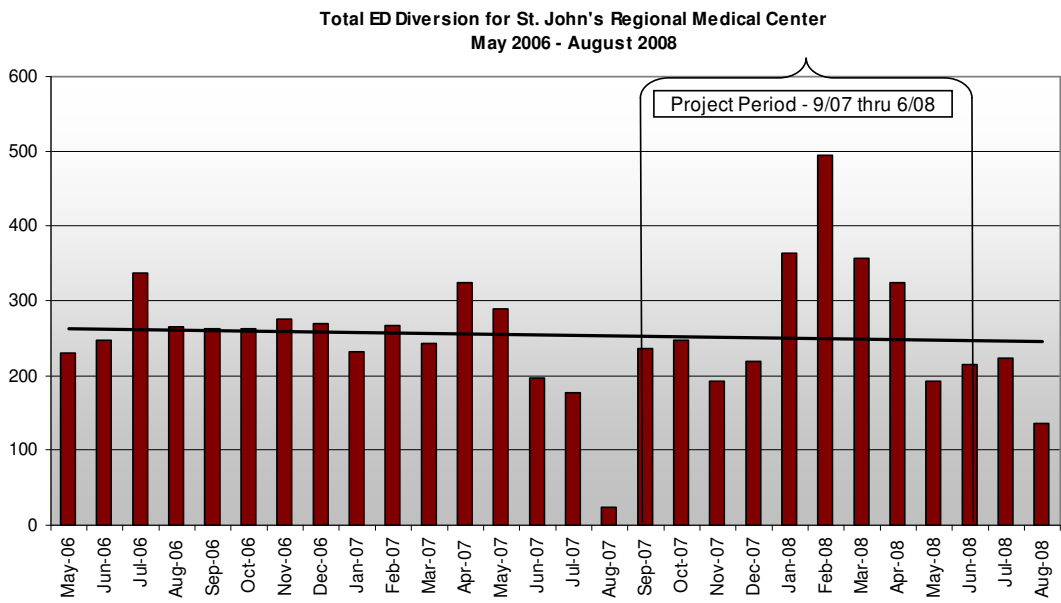












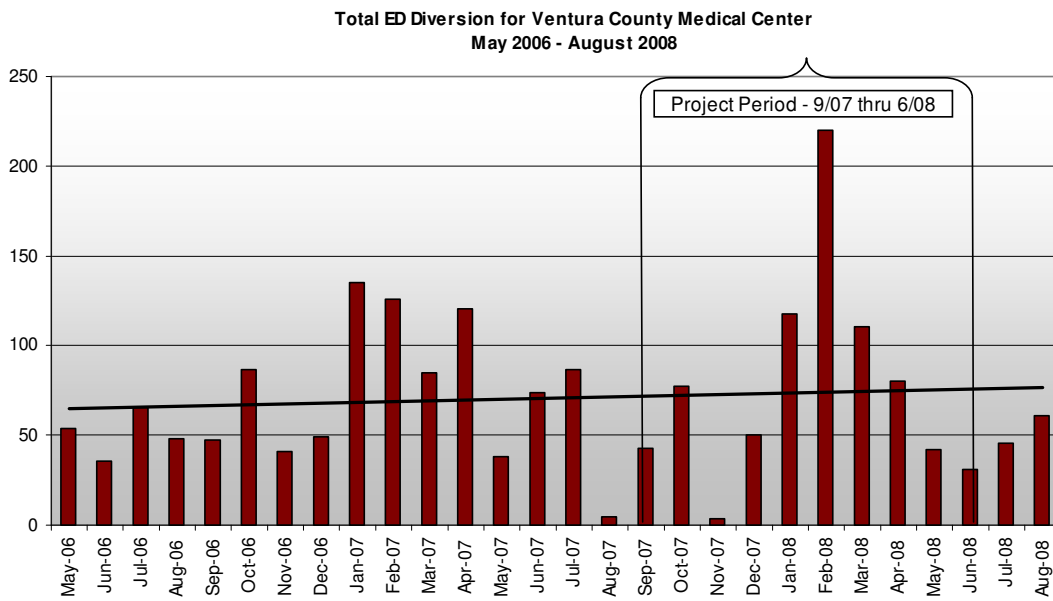


TABLE OF KPIS AND DEFINITIONS

KEY PERFORMANCE INDICATORS			
Hospital Factor	Indicator	Reporting	
I. ED Patient Satisfaction	Site-specific indicators	Monthly	
II. Clinical Process (Choose one)	Time to heart treatment	Monthly	
	Time to pain management		
III. Inpatient Flow	Time from inpatient bed assignment to bed placement	Bi-monthly	
	Time of discharge (median)		
	Bed empty to clean availability		
	Total hospital discharges		
IV. ED Throughput	Total ED throughput time	Bi-monthly	
	By treatment path:		a. Time from arrival to provider
	- Admitted		b. Time from provider to disposition decision
	- Fast Track		c. Time from disposition decision to departure from ED
	- Other ED Discharged		
V. Other ED	Hours on diversion	Monthly	
	Number of incomplete treatment		
	Total boarding hours		
	ED volume		
	ED admissions		
EMS Agency Factor		Reporting	
VI. Diversion	Total diversion hours	Bi-monthly	
	Total patients diverted		
	Total off load hours		

The following are definitions of the terminology used for the KPIS:

Time

For most of the measures defined below, the term “time” means the *elapsed time* (or *interval* of time) between two discrete events. Clock time (time of day) is used to measure the actual time an event occurs (e.g. the time a patient is discharged).

Incomplete Treatment

This term was used for any patient that does not complete ED treatment, including left against medical advice (AMA), left without being seen (LWBS), and elopement (was seen by a provider but left prior to completion of treatment).

Boarding Hours

Boarding for this study was defined as the number of hours where patients are waiting for admission, are boarded or are being held in the ED over the initial first two hours (the first two hours were not counted).

Diversion Hours

Diversion hours were all hours the hospital was on “ED” divert only, even if they accepted walk-in or ambulance patients.

Offload Time/Wall time

The time from ambulance arrival to patient transferred to ED gurney. If this was not collected, participants provided time from ED arrival to time the EMSA was back in service.

Average

Unless otherwise indicated, average is the arithmetic mean of a set of data values. For a set of n values $\{x_1, x_2, \dots, x_n\}$, the average (or mean) is computed as $(x_1 + x_2 + \dots + x_n) / n$.

ED Patient Satisfaction

To measure patient satisfaction, each participant hospital used the system already in place. A questionnaire was completed to indicate how each participant hospital currently measured and administered ED patient satisfaction. The required minimum reporting of patient satisfaction was to be measured once before the *California ED Diversion Project* began and once each quarter after that. Ideally, patient satisfaction would have been measured monthly, including the first month following the conclusion of the *California ED Diversion Project*.

EMS DIVERSION BY REGION – 2007

EMS Region	Population (per CA DOF) ¹	ED Volume (per OSHPD)	Hospitals (OSHPD) ²	ED Treatment Stations (OSHPD)	EMS Transports (per EMS Agency)	Diversion Hours (per OSHPD)	Diversion Hours (per EMS Agency)	ED Utilization/ 1,000 Population	ED Visits/ ED Treatment Station 1,000 Population	Diversion Hours/ EMS Transport Hospital	Diversion Hours/ ED Treatment Station		
Alameda	1,530,620	478,353	13	305	82,150	881	714	313	1,568	0.47	0.01	55	2
Central California	1,657,210	521,991	16	340	149,865	72	n/a	315	1,535	n/a	n/a	n/a	n/a
Coastal Valleys	707,257	189,801	12	131	41,885	0	n/a	268	1,449	n/a	n/a	n/a	n/a
Contra Costa	1,044,201	326,314	9	223	58,213	9	n/a	313	1,463	n/a	n/a	n/a	n/a
El Dorado ³	178,689	44,281	2	27	9,112	0	n/a	248	1,640	n/a	n/a	n/a	n/a
Imperial ^{3,5}	174,322	73,452	2	36	11,078	1,120	-	421	2,040	6.42	0.10	560	0
Inland Counties	2,071,775	654,035	19	360	25,142	14,405	19,224	316	1,817	9.28	0.76	1,012	53
Kern	809,903	220,739	9	130	66,708	548	621	273	1,698	0.77	0.01	69	5
Los Angeles	10,294,280	2,653,876	75	1,541	496,896	73,072	81,741	258	1,722	7.94	0.16	1,090	53
Marin ⁴	256,310	75,733	3	45	15,643	104	65	295	1,683	0.25	0.00	22	1
Merced	252,544	66,313	2	31	14,153	0	n/a	263	2,139	n/a	n/a	n/a	n/a
Monterey	425,356	136,971	4	63	20,571	0	n/a	322	2,174	n/a	n/a	n/a	n/a
Mountain Valley	626,982	232,882	7	126	44,216	164	1,089	371	1,848	1.74	0.02	156	9
North Coast	225,392	128,939	8	63	17,582	0	n/a	572	2,047	n/a	n/a	n/a	n/a
Northern California ⁵	643,505	266,885	19	150	77,210	594	-	415	1,779	0.92	0.01	31	0
Orange	3,098,183	764,169	27	552	55,931	8,445	7,197	247	1,384	2.32	0.13	267	13
Riverside ⁵	2,070,315	564,402	15	300	117,200	2,423	-	273	1,881	1.17	0.02	162	0
Sacramento ³	1,415,117	389,134	9	231	71,864	3,721	3,905	275	1,685	2.76	0.05	434	17
San Benito	57,493	15,580	1	6	3,771	0	n/a	271	2,597	n/a	n/a	n/a	n/a
San Diego ⁶	3,120,088	727,096	17	424	147,639	19,015	24,458	233	1,715	7.84	0.17	1,439	58
San Francisco	817,537	226,942	9	163	57,173	5,689	6,477	278	1,392	7.92	0.11	720	40
San Joaquin	680,183	203,858	7	107	40,575	227	320	300	1,905	0.47	0.01	46	3
San Luis Obispo	267,154	89,623	4	56	14,580	26	376	335	1,600	1.41	0.03	94	7
San Mateo ³	734,453	179,863	8	119	28,318	2,035	2,499	245	1,511	3.40	0.09	312	21
Santa Barbara	425,710	130,410	5	56	27,487	0	236	306	2,329	0.55	0.01	47	4
Santa Clara	1,820,176	398,334	11	228	59,557	1,965	2,600	219	1,747	1.43	0.04	236	11
Santa Cruz	265,183	62,062	2	36	11,384	677	1,440	234	1,724	5.43	0.13	720	40
Sierra-Sacramento ⁷	794,063	261,522	8	147	43,558	644	681	329	1,779	0.86	0.02	85	5
Solano	423,970	117,410	4	82	29,430	0	n/a	277	1,432	n/a	n/a	n/a	n/a
Tuolumne	56,910	23,150	1	14	4,849	0	n/a	407	1,654	n/a	n/a	n/a	n/a
Ventura	826,550	178,189	7	112	32,472	8,858	7,400	216	1,591	8.95	0.23	1,057	66
Total/Average	37,771,431	10,402,309	335	6,204	1,876,212	144,694	161,043	275	1,677	4.26	0.09	481	26
Total diversion hours including OSHPD data, when EMS agency data was not available							165,180						

¹ Population as of July 1, 2007

Source: OSHPD Annual Hospital Utilization Report 2007 (Pivot Tables), CA DOF, interviews with each EMS agency

² Includes all General Acute Care hospitals with at least 1 ED Visit reported in the OSHPD data

³ EMS transports estimated based on average growth rate

⁴ Diversion hours include all types (e.g. ED Sat, CT Failure, Neuro, Trauma)

⁵ Diversion hours were not made available from the EMS agency. The diversion hours calculations were estimated using OSHPD data

⁶ During 2002, San Diego County implemented a "home hospital" policy where a managed care patient is transported to their payer contracted hospital irrespective of the hospital's diversion status. Thus, diversion hours may overstate the total diversion problem as each diverted ED may still receive ambulance patients.

⁷ Region changed to "no divert" policy 7/2007. Thus the data reflect only January through June 2007.

n/a = Not applicable. The region has a "no divert" policy or does not have any hospitals

"-" = EMS agency did not respond to requests for data

EMS DIVERSION BY REGION – 2006

EMS Region	Population (per CA DOF) ¹	ED Volume (per OSHPD)	Hospitals (OSHPD) ² ED Treatment Stations (OSHPD)	EMS Transports (per EMS Agency)	Diversion Hours (per OSHPD)	Diversion Hours (per EMS Agency)	ED Utilization/ 1,000 Population	ED Visits/ ED Treatment Station 1,000 Population	Diversion Hours/ EMS Transport Hospital	Diversion Hours/ ED Treatment Station		
Alameda ³	1,513,859	438,597	12 288	83,882	1,034	1,073	290	1,523	0.71	0.01	89	4
Central California	1,624,906	522,599	17 326	83,927	50	n/a	322	1,603	n/a	n/a	n/a	n/a
Coastal Valleys	701,065	208,439	13 149	36,694	49	238	297	1,399	0.34	0.01	18	2
Contra Costa	1,031,012	317,594	8 191	59,517	1,494	1,674	308	1,663	1.62	0.03	209	9
El Dorado	176,969	45,549	2 27	8,991	0	n/a	257	1,687	n/a	n/a	n/a	n/a
Imperial	168,979	78,161	2 36	10,670	791	518	463	2,171	3.07	0.05	259	14
Inland Counties	2,043,644	543,740	20 361	103,566	17,177	22,318	266	1,506	10.92	0.22	1,116	62
Kern	790,246	216,728	10 125	39,863	420	1,020	274	1,734	1.29	0.03	102	8
Los Angeles ³	10,247,672	2,713,973	77 1,544	459,065	102,551	102,609	265	1,758	10.01	0.22	1,333	66
Marin ⁴	254,000	75,446	3 45	13,093	297	126	297	1,677	0.50	0.01	42	3
Merced	248,258	19,923	1 9	13,026	0	n/a	80	2,214	n/a	n/a	n/a	n/a
Monterey ³	421,463	126,114	4 63	19,755	0	n/a	299	2,002	n/a	n/a	n/a	n/a
Mountain Valley	618,847	226,847	7 110	77,688	493	622	367	2,062	1.01	0.01	89	6
North Coast	224,503	127,887	8 66	19,048	3	n/a	570	1,938	n/a	n/a	n/a	n/a
Northern California	638,490	245,252	19 150	42,500	529	593	384	1,635	0.93	0.01	31	4
Orange ³	3,075,341	739,141	26 518	53,371	11,340	9,821	240	1,427	3.19	0.18	378	19
Riverside	2,004,174	535,372	15 285	114,946	1,718	2,573	267	1,878	1.28	0.02	172	9
Sacramento ³	1,396,496	358,727	9 227	70,428	6,519	6,644	257	1,580	4.76	0.09	738	29
San Benito	57,128	14,838	1 6	2,049	0	n/a	260	2,473	n/a	n/a	n/a	n/a
San Diego ⁵	3,077,877	696,161	18 440	142,791	15,182	21,771	226	1,582	7.07	0.15	1,210	49
San Francisco	806,210	227,382	9 163	55,777	4,116	4,725	282	1,395	5.86	0.08	525	29
San Joaquin	671,115	204,525	7 107	48,120	100	196	305	1,911	0.29	0.00	28	2
San Luis Obispo ³	264,972	87,266	4 48	13,843	24	18	329	1,818	0.07	0.00	5	0
San Mateo	726,260	182,400	8 119	26,703	1,973	2,079	251	1,533	2.86	0.08	260	17
Santa Barbara	421,337	125,622	5 59	26,294	0	402	298	2,129	n/a	n/a	n/a	n/a
Santa Clara	1,790,272	354,929	10 224	54,246	1,593	2,546	198	1,585	n/a	n/a	n/a	n/a
Santa Cruz	262,150	65,351	2 36	10,588	1,225	686	249	1,815	n/a	n/a	n/a	n/a
Sierra-Sacramento	778,231	242,760	8 149	47,708	1,882	1,825	312	1,629	n/a	n/a	n/a	n/a
Solano	421,815	112,596	4 71	21,774	4	n/a	267	1,586	n/a	n/a	n/a	n/a
Tuolumne	56,882	30,165	2 20	4,765	0	1	530	1,508	n/a	n/a	n/a	n/a
Ventura	818,803	194,963	8 108	31,872	12,078	10,836	238	1,805	n/a	n/a	n/a	n/a
Total/Average	37,332,976	10,079,047	339 6,070	1,796,560	182,642	194,914	270	1,660	5.22	0.11	575	32

¹ Population as of July 1, 2006

Source: OSHPD Annual Hospital Utilization Report 2006 (Pivot Tables), CA DOF, interviews with each EMS agency

² Includes all General Acute Care hospitals with at least 1 ED Visit reported in the OSHPD data

³ EMS transports estimated based on typical 9-1-1 utilization by population

⁴ Diversion hours include all types (e.g. ED Sat, CT Failure, Neuro, Trauma)

⁵ During 2002, San Diego County implemented a "home hospital" policy where a managed care patient is transported to their payer contracted hospital irrespective of the hospital's diversion status. Thus, diversion hours may overstate the total diversion problem as each diverted ED may still receive ambulance patients.

n/a = Not applicable. The region has a "no divert" policy or does not have any hospitals

EMS DIVERSION BY REGION – 2005

EMS Region	Population (per CA DOF) ¹	ED Volume (per OSHPD)	Hospitals (OSHPD) ²	ED Treatment Stations (OSHPD)	EMS Transports (per EMS Agency)	Diversion Hours (per OSHPD)	Diversion Hours (per EMS Agency)	ED Utilization/ 1,000 Population	ED Visits/ ED Treatment Station	Diversion Hours/ 1,000 Population	Diversion Hours/ EMS Transport Hospital	Diversion Hours/ ED Treatment Station	
Alameda	1,501,124	442,775	12	286	82,141	1,124	1,319	295	1,548	0.88	0.02	110	5
Central California	1,591,635	508,298	17	310	79,107	115	n/a	319	1,640	n/a	n/a	n/a	n/a
Coastal Valleys	698,353	201,612	13	149	37,118	2,088	2,747	289	1,353	3.93	0.07	211	18
Contra Costa	1,021,555	280,237	8	192	54,568	388	506	274	1,460	0.50	0.01	63	3
El Dorado	174,542	45,039	2	27	8,850	0	n/a	258	1,668	n/a	n/a	n/a	n/a
Imperial	163,521	79,141	2	36	10,670	1,975	1,073	484	2,198	6.56	0.10	537	30
Inland Counties	2,002,506	518,377	19	319	101,121	24,998	32,661	259	1,625	16.31	0.32	1,719	102
Kern	765,161	211,731	10	124	35,830	543	1,905	277	1,708	2.49	0.05	190	15
Los Angeles	10,197,247	2,679,473	73	1,443	459,065	162,448	174,952	263	1,857	17.16	0.38	2,397	121
Marin	252,179	72,178	3	45	12,734	167	204	286	1,604	0.81	0.02	68	5
Merced	242,260	48,539	2	26	12,662	0	n/a	200	1,867	n/a	n/a	n/a	n/a
Monterey ^{3,4}	421,211	118,579	4	54	19,586	428	n/t	282	2,196	1.02	0.02	107	8
Mountain Valley	609,961	223,575	7	116	73,944	422	253	367	1,927	0.41	0.00	36	2
North Coast	223,443	127,128	8	66	18,750	0	n/a	569	1,926	n/a	n/a	n/a	n/a
Northern California ^{4,5}	632,023	224,046	18	131	42,075	294	196	354	1,710	0.31	0.00	11	1
Orange	3,056,814	767,336	26	523	53,426	10,808	10,608	251	1,467	3.47	0.20	408	20
Riverside	1,922,209	491,004	14	285	110,898	1,352	3,847	255	1,723	2.00	0.03	275	13
Sacramento	1,378,299	350,457	9	225	69,068	5,809	5,811	254	1,558	4.22	0.08	646	26
San Benito	57,112	14,592	1	6	1,865	0	n/a	255	2,432	n/a	n/a	n/a	n/a
San Diego ⁶	3,051,175	718,290	19	426	138,598	13,331	18,841	235	1,686	6.18	0.14	992	44
San Francisco	799,731	225,179	9	154	53,084	6,670	7,106	282	1,462	8.89	0.13	790	46
San Joaquin ³	659,707	202,230	7	107	44,752	137	n/t	307	1,890	0.21	0.00	20	1
San Luis Obispo	262,480	90,411	4	46	14,857	186	48	344	1,965	0.18	0.00	12	1
San Mateo	722,012	185,588	8	119	26,009	2,287	2,458	257	1,560	3.40	0.09	307	21
Santa Barbara	418,899	128,041	5	59	19,905	8	1,004	306	2,170	2.40	0.05	201	17
Santa Clara	1,763,481	305,690	10	224	57,293	1,723	2,638	173	1,365	1.50	0.05	264	12
Santa Cruz	260,469	64,800	2	36	10,149	1,726	689	249	1,800	2.65	0.07	345	19
Sierra-Sacramento	759,050	217,333	8	128	49,989	1,502	1,516	286	1,698	2.00	0.03	190	12
Solano	419,180	109,017	4	71	17,251	0	n/a	260	1,535	n/a	n/a	n/a	n/a
Tuolumne	56,816	31,740	2	20	4,232	0	4	559	1,587	0.07	0.00	2	0
Ventura	812,065	183,428	7	99	29,442	11,376	9,521	226	1,853	11.72	0.32	1,360	96
Total/Average	36,896,220	9,865,864	333	5,852	1,749,039	251,905	279,907	267	1,686	7.59	0.16	841	48
Total diversion hours including OSHPD data, when EMS agency data was not available							280,472						

¹ Population as of July 1, 2005

Source: OSHPD Annual Hospital Utilization Report 2005 (Pivot Tables), CA DOF, interviews with each EMS agency

² Includes all General Acute Care hospitals with at least 1 ED Visit reported in the OSHPD data

³ Diversion hours calculations estimated using OSHPD data

⁴ EMS transports estimated based on typical 9-1-1 utilization by population

⁵ Diversion hours (per EMS Agency) estimated from 2003-2004 diversion hours

⁶ During 2002, San Diego County implemented a "home hospital" policy where a managed care patient is transported to their payer contracted hospital irrespective of the hospital's diversion status. Thus, diversion hours may overstate the total diversion problem as each diverted ED may still receive ambulance patients.

n/t = Not tracked by EMS agency

n/a = Not applicable. The region has a "no divert" policy or does not have any hospitals

EMS DIVERSION BY REGION – 2004

EMS Region	Population (per CA DOF) ¹	ED Volume (per OSHPD)	Hospitals (OSHPD) ²	ED Treatment Stations (OSHPD)	EMS Transports (per EMS Agency)	Diversion Hours (per OSHPD)	Diversion Hours (per EMS Agency)	ED Utilization/ 1,000 Population	ED Visits/ ED Treatment Station 1,000 Population	Diversion Hours/ EMS Transport Hospital	Diversion Hours/ ED Treatment Station			
Alameda	1,497,110	381,701	11	239	75,424	1,505	1,764	255	1,597	1.18	0.02	160	7	
Central California	1,559,868	394,962	12	229	72,501	50	n/a	253	1,725	n/a	n/a	n/a	n/a	
Coastal Valleys	696,168	163,171	11	110	34,927	798	2,990	234	1,483	4.29	0.09	272	27	
Contra Costa	1,011,851	283,104	8	159	49,314	253	257	280	1,781	0.25	0.01	32	2	
El Dorado	171,355	45,300	2	27	8,769	0	n/a	264	1,678	n/a	n/a	n/a	n/a	
Imperial	158,650	68,880	2	36	10,455	2,083	1,276	434	1,913	8.04	0.12	638	35	
Inland Counties	1,952,754	466,912	18	298	97,944	26,269	37,114	239	1,567	19.01	0.38	2,062	125	
Kern	742,529	171,670	9	110	34,124	519	1,368	231	1,561	1.84	0.04	152	12	
Los Angeles	10,127,440	2,658,919	79	1,500	419,644	144,272	165,026	263	1,773	16.29	0.39	2,089	110	
Marin ³	250,703	68,947	3	45	10,733	98	n/t	275	1,532	0.39	0.01	33	2	
Merced	236,367	46,357	2	26	11,558	0	n/a	196	1,783	n/a	n/a	n/a	n/a	
Monterey ^{3,4}	421,191	119,248	4	54	19,641	603	n/t	283	2,208	1.43	0.03	151	11	
Mountain Valley	598,538	213,635	7	123	70,200	246	207	357	1,737	0.35	0.00	30	2	
North Coast ³	222,162	100,356	7	55	19,481	0	n/a	452	1,825	n/a	n/a	n/a	n/a	
Northern California ⁴	625,925	235,292	20	153	41,654	926	251	376	1,538	0.40	n/a	13	2	
Orange	3,033,026	747,031	28	530	52,301	11,482	10,767	246	1,409	3.55	0.21	385	20	
Riverside	1,841,707	481,754	15	266	112,796	1,586	3,216	262	1,811	1.75	0.03	214	12	
Sacramento	1,358,046	335,871	9	211	65,704	7,576	7,785	247	1,592	5.73	0.12	865	37	
San Benito	56,865	14,046	1	6	1,853	0	n/a	247	2,341	n/a	n/a	n/a	n/a	
San Diego ⁵	3,027,440	520,859	15	325	133,902	15,051	22,063	172	1,603	7.29	0.16	1,471	68	
San Francisco	796,288	220,235	9	148	48,103	6,604	8,015	277	1,488	10.07	0.17	891	54	
San Joaquin ³	643,929	179,606	7	102	41,619	134	n/t	279	1,761	0.21	0.00	19	1	
San Luis Obispo	260,146	89,707	4	46	14,512	44	48	345	1,950	0.18	0.00	12	1	
San Mateo	719,102	176,967	8	120	22,949	2,030	2,160	246	1,475	3.00	0.09	270	18	
Santa Barbara ³	416,612	78,900	4	47	19,181	3	n/t	189	1,679	0.01	0.00	1	0	
Santa Clara	1,747,249	306,481	11	216	54,246	2,397	3,077	175	1,419	1.76	0.06	280	14	
Santa Cruz	259,666	81,403	2	36	10,325	892	371	313	2,261	1.43	0.04	186	10	
Sierra-Sacramento	740,890	211,243	8	125	45,597	615	623	285	1,690	0.84	0.01	78	5	
Solano	417,574	104,984	4	61	16,162	0	n/a	251	1,721	n/a	n/a	n/a	n/a	
Tuolumne	56,686	30,946	2	20	4,412	0	0	546	1,547	0.00	0.00	0	0	
Ventura	806,634	166,371	7	97	28,417	13,265	9,257	206	1,715	11.48	0.33	1,322	95	
Total/Average	36,454,471	9,164,858	329	5,520	1,648,448	239,301	277,635	251	1,660	7.62	0.17	844	50	
Total diversion hours including OSHPD data, when EMS agency data was not available							278,473							

¹ Population as of July 1, 2004

Source: OSHPD Annual Hospital Utilization Report 2004 (Pivot Tables), CA DOF, interviews with each EMS agency

² Includes all General Acute Care hospitals with at least 1 ED Visit reported in the OSHPD data

³ Diversion hours estimated by OSHPD data

⁴ EMS transports estimated based on typical 9-1-1 utilization by population

⁵ During 2002, San Diego County implemented a "home hospital" policy where a managed care patient is transported to their payer contracted hospital irrespective of the hospital's diversion status. Thus, diversion hours may overstate the total diversion problem as each diverted ED may still receive ambulance patients.

n/t = Not tracked by EMS agency

n/a = Not applicable. The region has a "no divert" policy or does not have any hospitals

EMS DIVERSION BY REGION – 2003

EMS Region	Population (per CA DOF) ¹	ED Volume (per OSHPD)	Hospitals (OSHPD) ²	ED Treatment Stations (OSHPD)	EMS Transports (per EMS Agency)	Diversion Hours (per OSHPD)	Diversion Hours (per EMS Agency)	ED Utilization/ 1,000 Population	ED Visits/ ED Treatment Station	Diversion Hours/ 1,000 Population	Diversion Hours/ EMS Transport Hospital	Diversion Hours/ ED Treatment Station	
Alameda	1,492,709	403,396	12	232	78,660	1,251	3,496	270	1,739	2.34	0.04	291	15
Central California	1,523,446	445,605	16	249	70,253	1,542	n/a	292	1,790	n/a	n/a	n/a	n/a
Coastal Valleys ³	691,607	168,441	11	100	32,439	229	n/t	244	1,684	0.33	0.01	21	2
Contra Costa	1,000,115	302,636	8	157	48,958	369	381	303	1,928	0.38	0.01	48	2
El Dorado	168,310	47,725	2	27	8,637	0	n/a	284	1,768	n/a	n/a	n/a	n/a
Imperial	154,138	67,296	2	36	9,555	1,754	806	437	1,869	5.23	0.08	403	22
Inland Counties	1,898,287	479,368	18	301	94,767	36,314	52,387	253	1,593	27.60	0.55	2,910	174
Kern	719,357	180,474	10	114	32,758	2,258	1,532	251	1,583	2.13	0.05	153	13
Los Angeles	10,026,859	2,887,922	84	1,535	438,010	143,900	166,159	288	1,881	16.57	0.38	1,978	108
Marin ³	250,729	67,134	3	45	11,868	0	n/t	268	1,492	0.00	0.00	0	0
Merced	230,363	49,926	3	40	8,665	540	n/a	217	1,248	n/a	n/a	n/a	n/a
Monterey ^{3,4}	420,068	126,745	4	54	19,448	119	n/t	302	2,347	0.28	0.01	30	2
Mountain Valley	588,185	219,477	7	117	66,456	1,115	2,295	373	1,876	3.90	0.03	328	20
North Coast ³	220,032	92,427	6	50	18,913	0	n/a	420	1,849	n/a	n/a	n/a	n/a
Northern California ⁴	618,647	268,481	21	160	41,238	459	141	434	1,678	0.23	0.00	7	1
Orange	3,001,168	749,713	28	504	51,902	14,011	14,561	250	1,488	4.85	0.28	520	29
Riverside	1,764,136	486,344	15	258	110,735	3,231	6,712	276	1,885	3.80	0.06	447	26
Sacramento	1,332,815	352,973	9	197	66,348	6,374	6,380	265	1,792	4.79	0.10	709	32
San Benito ⁴	56,591	15,621	1	6	1,840	0	n/a	276	2,604	n/a	n/a	n/a	n/a
San Diego ⁵	2,998,514	670,814	17	359	131,762	16,891	23,084	224	1,869	7.70	0.18	1,358	64
San Francisco	793,715	188,894	8	134	46,152	6,852	13,582	238	1,410	17.11	0.29	1,698	101
San Joaquin ³	625,556	153,722	6	83	38,706	153	n/t	246	1,852	0.24	0.00	26	2
San Luis Obispo ³	257,024	89,185	4	44	14,258	56	-	347	2,027	0.22	0.00	14	1
San Mateo	716,773	187,162	8	107	22,468	1,244	1,948	261	1,749	2.72	0.09	244	18
Santa Barbara	413,823	137,950	5	63	16,820	0	0	333	2,190	0.00	0.00	0	0
Santa Clara	1,732,417	323,002	11	217	55,930	1,849	2,084	186	1,488	1.20	0.04	189	10
Santa Cruz	258,565	65,024	2	39	10,133	1,044	479	251	1,667	1.85	0.05	240	12
Sierra-Sacramento	720,819	221,889	8	124	41,773	639	766	308	1,789	1.06	0.02	96	6
Solano	414,759	110,656	4	58	15,980	0	n/a	267	1,908	n/a	n/a	n/a	n/a
Tuolumne	56,648	31,800	2	13	4,085	0	0	561	2,446	0.00	0.00	0	0
Ventura ³	798,038	189,146	7	97	27,894	4,819	n/t	237	1,950	6.04	0.17	688	50
Total/Average	35,944,213	9,780,948	342	5,520	1,637,411	247,013	296,793	272	1,772	8.26	0.18	868	54
Total diversion hours including OSHPD data, when EMS agency data was not available							302,169						

¹ Population as of July 1, 2003

Source: OSHPD Annual Hospital Utilization Report 2003 (Pivot Tables), CA DOF, interviews with each EMS agency

² Includes all General Acute Care hospitals with at least 1 ED Visit reported in the OSHPD data

³ Diversion hours estimated by OSHPD data

⁴ EMS transports estimated based on typical 9-1-1 utilization by population

⁵ During 2002, San Diego County implemented a "home hospital" policy where a managed care patient is transported to their payer contracted hospital irrespective of the hospital's diversion status. Thus, diversion hours may overstate the total diversion problem as each diverted ED may still receive ambulance patients.

n/t = Not tracked by EMS agency

n/a = Not applicable. The region has a "no divert" policy or does not have any hospitals

"-" = EMS agency did not respond to requests for data

REGIONAL DIVERSION POLICY TABLE

The following table summarizes the diversion policy for each EMS Region, as of 2007. Updated data from some regions was unavailable at the time this report was completed. Regions which have changed to a policy of “no diversion,” is recorded on the “Diversion not permitted” Table below.

Diversion Requirements	Alameda	Imperial	Inland Counties	Kern	Los Angeles	Marin	Mountain Valley	Northern California	Orange	Riverside	Sacramento	San Diego	San Francisco	San Joaquin	San Luis Obispo	San Mateo	Santa Barbara	Santa Clara	Santa Cruz	Ventura
1 "No diversion" policy																				
2 System-wide divert policy.	X	X	X	X	X	X	X ¹	X	X	X	X	X	X	X	X	X	X	X	X	X
3 Hospital is required to have an internal diversion policy.	X		X		X	X		X		X	X		X	X	X	X	X	X	X	X
4 Hospital's internal diversion policy is approved by the EMS Agency.			X			X								X				X		X
5 Diversion requires approval from hospital administrator or designee.	X	X	X		X	X		X	X	X	X			X			X	X		X
6 Hospital is required to have a plan to resolve diversion.	X				X	X		X			X		X	X		X	X	X		
7 Each diversion requires the approval of the EMS Agency.				X	X															
8 Policy allows for the EMS Agency to conduct unannounced site visits.			X	X	X		X	X	X			X	X	X			X	X		X
9 General principle: "if all are closed, all are open"		X	X			X	X	X	X	X		X	X	X		X			X	X
10 General principle: "round robin" when all hospitals are on diversion				X																
11 General principle: "if more than three hospitals are on diversion, all are open for 60 minutes" (example only)													X					X		
12 General principle: hospitals are grouped geographically to respond to diversion										X								X		
13 General principle: hospital "service area" is recognized												X								X
14 Diversion is generally considered a "request".	X		X	X	X				X			X		X				X		
15 Diversion is reported via phone/fax	X			X		X	X										X			
16 Diversion status reported by computer/ReddiNet/radio	X		X	X	X	X	X ²	X ²	X	X	X	X	X	X ²	X	X ²	X	X ²	X ²	X
17 Diversion is documented via forms/logs	X	X		X	X	X		X	X		X		X	X	X	X	X			
18 System monitoring conducted by EMS Agency	X			X		X	X	X	X				X	X		X	X	X		
19 Routine diversion poll conducted every hour							X													
20 Routine diversion poll conducted every 2 hours				X											X					
21 Routine diversion poll conducted every 4 hours																				
22 Routine diversion poll conducted every 8 hours								X												
23 Once on diversion, mandatory updates required every 2 hours	X					X	X												X	
24 Once on diversion, mandatory updates required every 4 hours																	X			
25 Once on diversion, mandatory updates required every 6 hours																				
26 Once on diversion, bed inventory conducted to reassess diversion													X							
27 Maximum allowable hours of diversion per day	X									X				X		X				

REGIONAL DIVERSION POLICY TABLE, CONTINUED

Diversion Requirements		Alameda	Imperial	Inland Counties	Kern	Los Angeles	Marin	Mountain Valley	Northern California	Orange	Riverside	Sacramento	San Diego	San Francisco	San Joaquin	San Luis Obispo	San Mateo	Santa Barbara	Santa Clara	Santa Cruz	Ventura
28	Maximum allowable hours of diversion per month							X								X			X		
29	Maximum allowable hours per diversion event			X		X		X	X	X	X				X	X	X		X		
30	Maximum hospitals allowed to be on diversion				X		X								X	X		X	X		
31	EMS Agency is notified of each diversion	X			X	X	X	X	X	X				X	X	X		X			
32	Control facility is notified of each diversion (dispatch)				X			X						X	X				X		
33	Central dispatch/fire departments/ambulance provider is notified of each diversion	X	X		X	X	X			X	X	X		X	X	X	X	X	X	X	
34	Base hospital is notified of each diversion		X		X	X				X		X	X	X	X			X	X		
35	Receiving hospitals are notified of each diversion	X			X		X		X	X	X	X		X	X	X			X	X	
36	Diversion applicable to BLS				X		X						X	X							X
37	Diversion applicable to ALS	X			X	X	X			X	X			X			X		X ⁴		X
38	Diversion applicable to CCT				X		X														
39	Diversion applicable to "direct admits"						X														

DIVERSION CATEGORIES

40	General	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
41	Case-by-case																				X	
42	ED saturation	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
43	Internal disaster/physical plant casualty	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X			X
44	Trauma	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X			
45	CT scan	X	X	X		X	X	X		X	X	X	X		X	X		X	X			X
46	Neurosurgery						X			X	X	X	X						X			X
47	ICU/no critical care beds/critical patient overload	X						X										X		X ⁶	X	
48	No diversion of specific patients (i.e., extremis, specialty care)	X	X	X	X		X		X	X	X	X	X	X		X	X	X	X	X	X	X
49	Diversion applicable to work action/staffing problems																					
50	Maximum transport times are identified when patients are diverted					X							X									
51	Maximum transport times for diverted trauma patients (minutes)			30		30					45											

22 12 15 23 20 26 15 17 21 21 17 16 21 22 16 15 21 24 10 17

Footnotes
1 For trauma only
2 Use EMSsystem
3 For case-by-case diversion
4 Optional
5 Requires approval
6 Happens when there is not enough space within the hospital to admit patients

Diversion not permitted in:
Coastal Valleys (effective 4/06)
Contra Costa (effective 12/06)
Central California (effective 1/03)
El Dorado (two hospitals in region)
Merced (effective 2003)
Monterey (effective 11/05)
North Coast (effective 2003)
San Benito (one hospital in region)
Solano (effective 2001)
Sierra-Sacramento (effective 7/07)
Tuolumne

EMS regions with minimal diversion
EMS regions with improving levels of diversion
EMS regions with high levels of diversion

BEST PRACTICE INITIATIVES

The following are examples of the kinds of best practice initiatives that were made available on the participant extranet.

BEST PRACTICE INITIATIVE: NO-WAIT EMERGENCY DEPARTMENT

Hospital Name:

Adventist Glen Oaks Hospital

Address:

701 North Winthrop Avenue
Glendale Heights, IL 60139

Contact:

Rebecca Girling, RN
Nurse Manager
(630) 545-5700

2006 ED Volume: 16,055
Growth from 2005: -5.3%
Total Staffed Hospital Beds: 62
Acute ED Beds: 19
Fast Track: No
Clinical Decision Unit: No

Problem to be Resolved:

The hospital was looking to redesign its ED to reduce/eliminate waiting

Key Words:

- No-wait ED
- Bedside triage
- Bedside registration

Lessons Learned:

Although Adventist GlenOaks Hospital has been able to successfully convert to a no-wait ED, they caution that this is not a step that all hospitals are ready to take. Years of preparation were necessary for Adventist GlenOaks to eliminate waiting in the ED, which had periodically decreased its wait times prior to eliminating waiting altogether.

Reason for Change:

Over the last few years, Adventist GlenOaks Hospital had successfully reduced waiting in its ED. The department first adopted a policy which required patients to be seen within 30 minutes of arrival. After this was accomplished, they set a new goal, aiming to see patients within 15 minutes of arrival. Again, the successful completion of this goal motivated the hospital to seek to decrease wait times even more.

Implementation:

After hearing about the concept of a no-wait ED, the ED's physician director visited a hospital which had effectively eliminated its ED. Although he was skeptical at first, after spending a day talking with doctors, nurses, patients, and technicians at this hospital, he became convinced that Adventist GlenOaks could not only adopt such a concept, but could do it better. Once he determined that this was a good model to follow, the physician director brought other key staff members to site-visit this facility.

Before it could completely eliminate waiting, Adventist GlenOaks Hospital had to make sure that the proper processes and support were already in place. They had already instituted best practices including bedside triage and bedside registration, which eliminate any unnecessary delays prior to treatment. Additionally, lab and radiology staff were met with and agreed to treat tests from the ED as priority, which eliminated any unnecessary treatment delays in the ED as patients would not be held up in ED beds waiting for test results.

By eliminating a physical waiting room, Adventist GlenOaks Hospital was able to expand the treatment capacity of its ED, putting treatment rooms in the area that was once the waiting room. These additional treatment rooms have provided the necessary capacity to enable patients to be seen immediately upon arrival in the ED.

When patients arrive in Adventist GlenOaks ED, a greeter meets them and calls a nurse to bring them to a treatment room. Once the patient is in the room, his or her vital signs are taken and a patient chart is created bedside during bedside registration. The patient is then seen by a physician, much sooner than with typical triage and registration systems.

Results/Impact:

Adventist GlenOaks Hospital redesigned its ED without a waiting room, and has successfully been able to accommodate patients arriving in the ED without any delays. Patients are now immediately brought to treatment rooms so that treatment can begin right away.

BEST PRACTICE INITIATIVE: SURGERY SMOOTHING

Hospital Name:

Boston Medical Center

Address:

1 Boston Medical Center Place
Boston, MA 02118

Contact:

Jonathan Olshaker, MD
Chief, Dept of Emergency Medicine
Jonathan.olshaker@bmc.org
(617) 414-4930

2006 ED Volume: 128,005
Growth from 2005: 2.9%
Total Staffed Hospital Beds: 483
Acute ED Beds: 30
Fast Track: No
Clinical Decision Unit: No

Problem to be Resolved:

Long ALOS in the ED

Key Words:

- Surgery smoothing
- Rapid Cycle Testing
- Throughput
- Inpatient admissions

Lessons Learned:

Teamwork is essential for success. It is impossible to maximize the potential of the ED unless the whole hospital is working together as a unified entity towards a common goal. Also, rather than looking for one major change to fix all of the hospital's problems, a series of small changes can have a substantial impact.

Reason for Change:

Boston Medical Center (BMC) was one of 10 hospitals to receive a grant from the Robert Wood Johnson Foundation to participate in the Urgent Matters project, and then was one of four to receive additional funding for a special demonstration project. The Urgent Matters Project is an initiative that helped hospitals throughout the country improve throughput in their EDs to eliminate overcrowding and improve access to emergency care. Participating in this project provided BMC with the means to make changes to improve their throughput.

Implementation:

The hospital used rapid cycle testing to try out a series of small changes which altogether were responsible for significant improvement. The rapid cycle testing method was desirable because it is flexible and allows for changes to be initiated quickly with minimal financial risk. BMC was able to build on successful results to achieve organizational buy-in because it was comforting to know that if something didn't work, the change was not permanent.

BMC's management identified the process of getting admissions out of the ED as the biggest impediment to efficient flow in the ED, as well as the largest single fixable impediment. The problem seemed to be particularly bad around the middle of each week, when the intensive care unit would generally be backed-up. To address this problem, BMC worked on smoothing the surgery schedule. Elective surgeries were scheduled more evenly throughout the week, with surgeons only booking the operating room when a surgery was scheduled, rather than for large, fixed blocks of time each week. This smooth scheduling helped decrease the backlog in the ICU, which facilitated patient flow from the ED.

Results/Impact:

Smoothing elective surgeries has helped for better flow out of the ED, and has also meant that fewer elective surgeries have needed to be cancelled or delayed to accommodate urgent cases.

Average ED throughput decreased from 4.5 hours to 3.75 hours, which has effectively saved 525 hours per week. Diversion decreased by 20 percent in the year following the implementation of these changes. Reducing diversion has been very important financially, as the hospital estimates that for each hour on diversion, the hospital loses an average of two admissions, which translates into approximately \$20,000 in forgone revenue.

BEST PRACTICE INITIATIVE: LEAN MANUFACTURING

Hospital Name:

Doctors Hospital

Address:

41 High Street
Columbus, OH 43213
(614) 298-6695

Contact:

Marci Conti, RN, MBA
VP Operations, CNO
mconti@ohiohealth.com

2006 ED Volume: 70,000
Growth from 2005: 1.4%
Total Staffed Hospital Beds: 250
Acute ED Beds: unknown
Fast Track: Yes
Clinical Decision Unit: No

Problem to be Resolved:

Not enough capacity to accommodate ED visits

Key Words:

- Left without being seen (LWBS)
- Average length of stay (ALOS)
- Patient satisfaction
- Lean manufacturing
- Software simulation

Lessons Learned:

One of the most important factors to success for Doctors Hospital was flexibility. Specifically, each treatment room must be fully equipped and each staff member fully capable of handling patients of any acuity, rather than trying to designate specific resources for urgent versus acute care needs.

Reason for Change:

Staff at Doctors Hospital felt completely overwhelmed by the volume of ED patients they saw each day. The ED, originally designed to accommodate 35,000 visits annually, was in fact seeing 69,000 patients each year. The ED could not accommodate all of these visits in a timely manner, which caused the LWBS rate to be high, at six percent, while patient and staff satisfaction were very low. Because plans for a new ED were still two years away, ED management realized that they needed to come up with process changes to improve patient flow through the facility.

Implementation:

To address these issues, an ED management team held meetings over the course of two months. At these meetings, they discussed the current situation, identified underlying causes to problems they were seeing, and looked for solutions from other industries that could be applied to patient flow.

Doctors Hospital’s ED management chose to adopt a “lean manufacturing” technique, aimed at reducing unnecessary steps in the patient-care process. Specifically, the lean manufacturing concept was applied to reduce patient handoffs between staff members and expedite lab and radiology tests.

Most importantly, Doctors used software called “Arena” to simulate how various changes they could put in place would impact actual ED operations. This was beneficial as management could show staff members exactly what must be done to improve their situation, and they could test to see if changes were actually likely to work before implementing them.

Results/Impact:

Doctors Hospital was able to decrease LWBS rate from six percent to three percent and reduce ALOS from 220 minutes to 180 minutes. At the same time, ED volume continued to increase at an average rate of 20 patients per day. Prior to initiating changes in the ED, Doctors had Press Ganey patient satisfaction scores in the tenth percentile. Since then, however, Press Ganey scores have increased to the 70th percentile.

BEST PRACTICE INITIATIVE: ELECTIVE SURGERY POSTPONEMENT TOOL

Hospital Name:

Latter Day Saints Hospital

Address:

Eighth Avenue and C Street
Salt Lake City, UT 84143-0001
(801) 408-1100

Contact:

Mike Gibbons, RN, BSN
ED Nurse Manager
Gibbons@ihc.com

2006 ED Volume: 38,452
Growth from 2005: unknown
Total Staffed Hospital Beds: 413
Acute ED Beds: 24
Fast Track: No
Clinical Decision Unit: No

Problem to be Resolved:

High inpatient volume leading to crowding and diversion in the ED

Tools Provided:

- Diversion Policy

Key Words:

- Elective surgery
- Daily administrative huddle

Lessons Learned:

Whenever a hospital is trying to come up with a plan or process to improve patient flow, it is absolutely necessary to include ED managers in this process. The ED accounts for as much as 65 percent of all admissions, so ED managers are often able to provide the most accurate picture of how the hospital needs to handle its flow issues.

Reason for Change:

In 2002, Latter Day Saints (LDS) Hospital's ED was frequently on diversion as the hospital was having trouble dealing with its growing inpatient volume. The hospital's new CEO began holding a daily administrative huddle, determined to find a solution to this problem. They wanted to find a mechanism for limiting admissions or increasing discharges when bed capacity was strained. The solution they found was to cancel or postpone elective surgeries.

Implementation:

At LDS Hospital, elective surgeries are only cancelled or postponed on an as-needed basis. Careful monitoring is done to recognize when surgical floors become full, and identify which other floors are likely to become overfull as a result. When all inpatient floors are at or near capacity, the OR is not allowed to proceed with any elective surgery that will require admission without first consulting with the house supervisor.

Specifically when the facility approaches its full capacity, a procedure in the OR will not begin until staff can be sure that they will have a bed available for that patient.

Results/Impact:

Since this new plan was put in place, LDS has only used the cancellation option on five days. However, having the process in place has helped in other ways. Simply by putting in place a system to analyze the hospital's capacity resources, they have been able to identify possible problems before they happen and prevent severe cases of overcrowding and diversion.

BEST PRACTICE INITIATIVE: STANDARD CARE PROTOCOLS

Hospital Name:

San Antonio Community Hospital

Address:

999 San Bernardino Road
Upland, CA 91786

Contact:

Steve Ernst, MD
Emergency Department Medical Director
(909) 985-2811

2006 ED Volume: 59,979
Growth from 2005: -1.1%
Total Staffed Hospital Beds: 308
Acute ED Beds: 23
Fast Track: No
Clinical Decision Unit: No

Problem to be Resolved:

Long wait times in the ED.

Key Words:

- Wait time
- Electronic records
- Standard Care Protocols

Lessons Learned:

The time that patients spend waiting doesn't have to be wasted; it can instead be used to begin the course of treatment.

Reason for Change:

After implementing a new and more accurate electronic records system, San Antonio Community Hospital discovered that they had a serious problem of long wait times. The facility, originally designed to see 30,000 patients annually, in fact saw nearly 65,000 patients in the ED in 2003.

Implementation:

ED management at San Antonio Community Hospital sought to make better use of the time that patients spend waiting in the ED. Specifically, they were looking to establish standard protocols to begin treatment for specific conditions during long waits in the ED. They came up with protocols for abdominal pain, congestive heart failure, and shortness of breath, among other common complaints. Altogether there are 14 protocols, which account for more than half of the conditions seen in the ED.

Initially there was resistance from many staff members to these new care protocols, but having a few key staff champions helped spread acceptance of this new care concept.

Results/Impact:

In the two years following San Antonio Community Hospital's adoption of standard care protocols, the left without being seen rate dropped from 4.2 percent to 2.4 percent. Patient satisfaction improved significantly, from the 33rd percentile to the 84th percentile. Additionally, wait times improved, with the door-to-triage time dropping from 30 to 18 minutes, the door-to-treatment time dropping from 111 to 40 minutes, and the average wait time for patient beds decreasing from 4 to 2.5 hours.

Best Practice Initiative – Code Capacity Program (Hallway Beds)
Loma Linda University Medical Center

The Code Capacity Program from Loma Linda University Medical Center provides a procedure to rapidly decompress the Emergency Department when the entire ED is occupied with patients and admitted adult ED patients have been awaiting in-house placement for two hours and admitted patients being held in the ED prohibits the safe and timely evaluation and treatment of incoming patients to the ED.

In the event hospital bed utilization has been maximized, the admitted ED adult patients already awaiting in-house acute care bed assignments will be admitted immediately to acute care units. If a bed is not immediately available; the patients will be placed in inpatient unit hall beds.

Invoking code capacity includes a Pre-Code Capacity warning phase to alert inpatient areas to implement actions to make admission beds available. The alert starts with ED notification to bed placement administration. If the critical condition in the ED is not relieved within 30 minutes of the warning page, then the Attending Physician, the ED RN Supervisor/Charge Nurse and the Director on-call declare the need to implement the Hospital Full Capacity Protocol.

Guidelines for code capacity activation, patient selection, and transport are in place to ensure patient safety. Each inpatient unit management team developed a unit specific response and staff education. The process is evaluated using a standard tool that identifies successes and barriers to provide data and information to improve the process.

CODE CAPACITY IN UNIVERSITY HOSPITAL

WHAT is CODE CAPACITY?

- Code capacity is a way to address high census in University Hospital as well as critical saturation in the ED
- Includes selective use of hallway beds on adult in-patient units

HOW DOES CODE CAPACITY WORK?

Using established criteria, ED calls Pre-Code Capacity when saturation nears capacity



ALL adult unit Charge Nurses (CN) notified



CN initiates Unit Admission Algorithm



ED continues to admit patients



Code Capacity declared by ED Director, ED Charge RN & Administration



Patient Placement notifies unit CN about required admission



Unit RN receives report from ED RN



Arrival of the patient by dispatch (non-telemetry patients) or CCST (telemetry patients)



Patient cared for in the hallway of the unit by staff working to provide the utmost observation, care & privacy until appropriate bed is available

Special Notes:

Each unit receives only **1** hallway patient!

Hallway patients may be transfers from ICU to make room for critical ED patients

CODE CAPACITY IN UNIVERSITY HOSPITAL

Resources...

- A "Code Capacity Packet" is located in the gray disaster box on each unit. This packet contains explanations and critique forms.
- Extra supplies and equipment are available through Central Service
- Ellen McCarville, Director of Patient Flow, UH, Pager 3844

Criteria for hallway patients:

- Stable
- Non-isolation
- Acute or Intermediate Level of Care

Criteria for space in which patients are placed:

- *Able to observe patient (no call light provided)*
- *Electric plugs*
- *Privacy curtains*
- *Portable oxygen, suction, telemetry, IV pumps, etc., as necessary*
- *Bathroom accessible in nearby room, to be shared with existing patients*

How does one care for this patient?

- *These patients are provided with the same care as any other patient*
- *Ancillary services (i.e. Nutrition, Pharmacy, Clinical Lab, Therapies) provided as prescribed*
- *Explanation of bed status provided to patients and their families*
- *Documentation performed on standard forms; to allow for this documentation, patient placed in a 98-01 bed in CHAIS*

Once patient is moved to a unit bed and code capacity is complete, please fill out a critique form and turn in to your unit management

Ellen McCarville, RN, MS

Director, Patient Flow

Ext. 15053, Pager 3844

Intershift Education EAS# INSV00051

July 2008

Page 2 of 2

Hospital Full Capacity Clinical Protocol - Code Capacity

Loma Linda University Medical Center

Hospital Full Capacity Protocol – Code Capacity provides a procedure to rapidly decompress the Emergency Department (ED) when the entire ED is occupied with patients and admitted adult ED patients have been awaiting in-house placement for two (2) hours AND the number of admitted patients being held in the ED has prohibited the safe and timely evaluation and treatment of incoming patients to the ED.

A. Preparation:

1. Each inpatient unit management team is responsible to develop a unit specific Code Capacity plan and to educate staff as to this plan. This plan identifies actions to be taken prior to Code Capacity activation to facilitate placement of patients. This plan also includes placement of patients in hall beds if other bed options are not immediately available when Code Capacity is implemented.
2. In the event hospital bed utilization has been maximized, the admitted ED adult patients already awaiting in-house acute care bed assignments will be admitted immediately to acute care units. If a bed is not immediately available; the patients will be placed in inpatient unit hall beds.

B. Criteria for initiating Code Capacity:

1. The following conditions exist in the ED:
 - a. Waiting rooms and triage holding have greater than 10 patients AND
 - b. Greater than 15 minutes wall time for ambulance patients in ED OR
 - c. 10 or more admit holds in ED.

C. Procedure for Initiating Code Capacity:

1. Pre-Code Capacity Warning: After conferring with the ED attending physician, ED charge nurse notifies the Patient placement, MC House Supervisors when present and EC House Supervisor.
2. Patient Placement and ED House Supervisor provide a warning page to the Unit Managers and Unit Charge nurses/Team Leaders of impending Code Capacity implementation.
3. If the critical condition in the ED is not relieved within 30 minutes of the warning page, then the Attending Physician, the ED RN Supervisor/Charge Nurse and the Director on-call declare the need to implement the Hospital Full Capacity Protocol (Code Capacity).
 - a. The Nursing Director and/or House supervisor through an email notification informs Administrator on-call of Code Capacity activation.
4. If approved, the House Supervisor/Patient Placement notified the Unit Managers and Charge Nurse/Team Leaders that Code Capacity is in effect and to prepare for patients.

5. CCST and Dispatch are notified to allow preparation for assistance with transport of patients to the units.

D. Protocols for Hall Bed Placement:

1. Guidelines:

- a. The placement of patients in inpatient units is assigned by the Patient Placement Coordinator in collaboration with Emergency Department Charge Nurse.
- b. Each designed unit may receive one (1) patient. (No unit may have more than one hall bed patient).
 - Designated Units are: UH: 4100, 6100, 6200, 6300, 7300, 8200, 8300, 9200. EC: 1200, 1300.
- c. Nursing report must be accepted at the time requested by the ED nurse.
- d. If RN not required, patients are transported via dispatch immediately to the unit.
- e. If RN required for transport, CCST is available to assist with transport of patients requiring monitoring up to the unit.
- f. Patients admitted to hallways on in-patients units are placed as much as possible according to service.
- g. Unoccupied acute floor beds are utilized before hall beds are used.
- h. Exception: Patients admitted to EC hallway beds may remain on EC and not be transported back to MC unless clinical condition warrants transfer.
- i. Hallway patients need not be admitted to the unit on which they are boarding.
- j. Telemetry patients may only be assigned to inpatient hall beds after approval of the ED Attending Physician and it has been confirmed that the receiving units has a telemetry box and a central monitoring slot OR a portable monitor that can be closely monitored.
- k. Adult patients less than 21 years of age may be considered for placement on a Pediatric Unit.

2. Priorities:

- a. Non-Telemetry patients with low co-morbidity are first considered for all bed placement.
- b. Non-Telemetry patients with low to moderate risk factors co-morbidity are the second patient population to be considered for all beds.
- c. Patients admitted on or for Telemetry monitoring with low co-morbidity and with minimal index of suspicion for a cardiac event.

3. Exceptions:

- a. Patients on acute units may not be moved to hall beds in order to make room for patients admitted from the ED.
4. Hall Bed Exclusions:
 - a. Patients requiring the Intensive Care Unit may not be placed in hall beds.
 - b. Patients requiring minimal oxygen (less than 4 l/min via Nasal Cannula) will arrive to the unit hall bed assigned with a full tank of o₂. (Any equipment exchange is prearranged prior to transporting the patient.)
 - c. Patients on ventilators may not be placed in hall beds.
 - d. Patients requiring Isolation or negative pressure room placement may not be placed in hall beds.
 - e. Patients that require frequent suctioning are not candidates for hall bed placement.
 - f. Patients who have ruled-in for MI may not go to a hall bed.
5. If hall bed placement has been maximized (1 per unit) and the ED is still at full capacity, the administrator on call and the Medical Director are notified and make decisions regarding deferral of elective and urgent cases.
6. Unit Code Capacity is cleared, the Transfer Center works with the administrator on call to determine if LLUMC continues to accept incoming transfer requests for higher level of care.

E. Discontinuation of Code Capacity:

1. Requirement for discontinuation:
 - a. All unit hall bed placements have been maximized (1 per unit), OR
 - b. The ED no longer needs hall bed placements, AND
 - c. ED Attending Physician, the Charge Nurse and the Director on call agree to discontinue the Code Capacity Protocol.
2. Upon discontinuation of Code Capacity protocol, Patient Placement and the ED House Supervisor are to be notified.

Section 1.01

3. Patient Placement and EC House Supervisor are to notify the Nurse Managers, Unit Charge RN/Team leaders, CCST and Dispatch of discontinuation.

Code Capacity Feedback Tool

Date of Code Capacity: _____

Unit: _____

Patient admitted to hall bed: Yes No

Received Notification of Code Capacity activation: Yes No

Received Notification of Patient Assignments: Yes No

Received Report from ED for Patient Assigned: Yes No

Patient received to unit in gurney/bed: Yes No

Orders able to be “implemented” for patient assigned: Yes No

What was required to ensure proper care of the patient?

(what care issues had to be worked out for care in the hallway, i.e o2, monitor, etc..)

Barriers identified in Code Capacity:

Ideas for Improvement in Code Capacity

SPECIFIC COLLABORATIVE EVALUATION COMMENTS

COLLABORATIVE EVALUATION COMMENTS
Please rate the impact of the project's Collaborative on diversion and hospital capacity for your organization based on your organization's overall goals and expectations.
Decrease diversion rates but increase bed delay hours. We have changed our focus on flow being an ED issue to a hospital issue
This project served to create "pressure" on upper management to implement changes at my facility. It also opened a door with the EMSA for us
I got a lot of great ideas we can use for our ED
Looking more at ED processes
Fit into our current goals and strategies. Already had a patient flow team so this enhanced improvement activities
As working for EMS unable to directly change hospital practice - EMS not able to unilaterally change policy
Not sure how to answer - diversion decreased among three hospitals but doesn't specifically apply to EMS Agency's task
This project has brought about a heightened awareness of ED impaction on patient care which has resulted in greater collaboration among nurses and nurse managers
There were processes started prior to joining the project
We have shared a learned from our colleagues. Great ideas and solutions
We did very well at the high level goals but I think we weren't able to breakthrough some of the ED internal barriers
The project gave us tools and ideas for improvement for discussing ED diversion, improve ED and hospital throughput
We were able to decrease ED diversion and decrease the amount of patient LWBS...This was putting the hospital at risk
Our facility did not have an inpatient champion
We already had most of these goals establishes prior to this project. Maybe has shifted focus off ED as it's our problem to some degree. ED leadership still ones keeping goals focused
Will your organization continue to use some of the tools you learned or that were provided?
Loved using the HIT approach - also learned of other initiatives we would like to try but haven't had time yet
Will continue to closely monitor and report diversion and wall time data. Will continue to work on getting a trial of no diversion in the County
We plan to continue collecting wall time data
Bed rounds - communication link to Admin
We have already implemented some changes
Excellent sharing between hospitals
The RAU has helped the impaction in the ED; We have a strong HIT membership who are charged with ensuring a more efficient patient throughput
We will continue data collection
Throughput-initiative meetings - COO involved and champion
How would you rate the Collaborative's faculty?
Pam was always helpful, she always had a possible solution or an idea to share
It was a pleasure working with Pam
All went above in trying to assist us
Thank you Pam
Would like to have had more guidance on site in the beginning
Excellent staff

Your commitment to the project...stellar
Pam is awesome. Appreciate her help. Did I say she needs a raise!
Starting to get inpatient/Administration buy in. Definitely have numerous areas to improve
How beneficial were the site visits conducted by the faculty?
Pam was helpful in engaging other members of our team
Kept focus on our process and incentive to produce/create/obtain results
Improved communication
Primarily a review of where we were and discussions of what we might want to try
Thank you Pam
Limited by the empowerment of the team members in the hospital
She kept us focused and used best practices
This keeps facilities in line. Visits are good. The facilities are given an opportunity to prepare and respond
Really no new advice or encouragement given
How would you rate the Collaborative's didactic conference calls?
The didactic on change theory was great and timely for me
Excellent topics
Not really relevant for EMS Agency but good information
Didn't really apply to EMS but good info
Only did a couple - kept changing times/date
Half the time started late or not at all
How would you rate the Collaborative's web site?
Difficult to use
Sometimes challenging to find what you're looking for
(Ranked 4) when understood how to use and had time to look at the site
Difficult to maneuver
Were the best practices listed on the web site and in the Summit binders helpful?
Yes - always good to see what others are trying
Gave ideas
In your opinion, what were the top three strengths of the Collaborative?
Great info included in Summits, coaching calls, and site visits
Persistence
Bringing knowledge and experience into the collaborative
Providing tools to analyze data
Learning about best practices
Looking at ED admits as hospital admits
Getting inpatient involvement (med surg director)
Data obtained validated ED Concerns
Frequent contact
Collaboration/sharing of ideas
Putting EMS with hospitals
Sharing of what other hospitals are doing to improve patient flow not just ED but hospital-wide
Enthusiasm plus! Kept us going
Expertise - good speakers
Networking opportunities
Information sharing
Common measurements and KPIs that are universal

Quality of the content and guest speakers
Networking with other sites
Summits - very informative speakers
Didactics were helpful
Group participation
Quality of faculty
Data presentation
Comparative data opportunity
Sharing tools and ideas
Learning stories and experiences from others
The faculty were great mentors
Provided tools and best practices
Kept us focused with goals/results
Hearing other hospitals' PI measures and experience
Organization
Best practices
In your opinion, what were the main weaknesses of the Collaborative?
The focus should equally include bed delay, it seems that if diversion decreases, bed delay increases
Having to depend on facility goodwill/participation
Time line was pretty fast paced
Culture/facility ability to change/implement/evaluate
Web site - slow to get up
Data hard to get - lengthy process
Much too hard to obtain data submitted too often
Not directly related to Collaborative - inability to effectively change policy to decrease diversion
The web site was slow to get going
Data collection requirements with little or no resources
Interaction with sites
No need for hospital to guarantee support of a PI trained project facilitator or coordinator
Needed more frequent check-ins to hold us accountable
Data collection
Dates of Summits
Distance of Summits
Better Food
Our internal issues with inpatient
No new info
What improvements to the Collaborative would you recommend?
Have a data guru who can take "raw" or hospital data as is so that facilities don't have to extract or further extrapolate data
The Summits are very long - any way to condense somewhat?
Funding to supplement data collection
Coordinators invest in start on site with the leadership to see that they understand the data collection/reporting
More dissemination of data and more hospitals
Support to solve data issues on site/problem solving
Many handouts hard to read due to small size font
Have other hospitals in area participate

What is your overall satisfaction with the Collaborative?
I appreciate very much having the opportunity to be challenged and have the support to implement change
We enjoyed being part of this
Well done
Please tell us in your own words about your experience with the Collaborative
Today I am realizing the incredible value I have received by opening channels of communication with the other two participating hospitals in my county. This would not have happened without the Collaborative's assistance and leadership
Great networking opportunities and encouragement to try new things!
This has been an enriching process both personally and professionally. Although we are not there, our organization has shown improvement in our care processes as a result of the change
I learned a lot and we changed a lot for the better
I believe in it strongly but was very busy with hospital priorities; I think we needed more internal structure
It helped our organizations achieve and improve our processes
Data collection and submission



ABARIS GROUP

700 Ygnacio Valley Road, Suite 270
Walnut Creek, CA. 94596
Tel: (925) 933-0911
Fax: (925) 946-0911
abarisgroup.com