

Indigenous Community EM Project Echo Emergency Medicine Benchmarking

Nicholas Jouriles, MD

President, ED Benchmarking Alliance

Professor & Chair, EM, Northeast Ohio Medical University

Vice Chair, EM, Summa Health

Past President, ACEP

Learning Objectives

- Discuss the definitions of quality and efficiency
- Describe one method to improve ED efficiency
- List three indirect markers of ED care quality



Disclosures

- No disclosures



The ED Is Complex

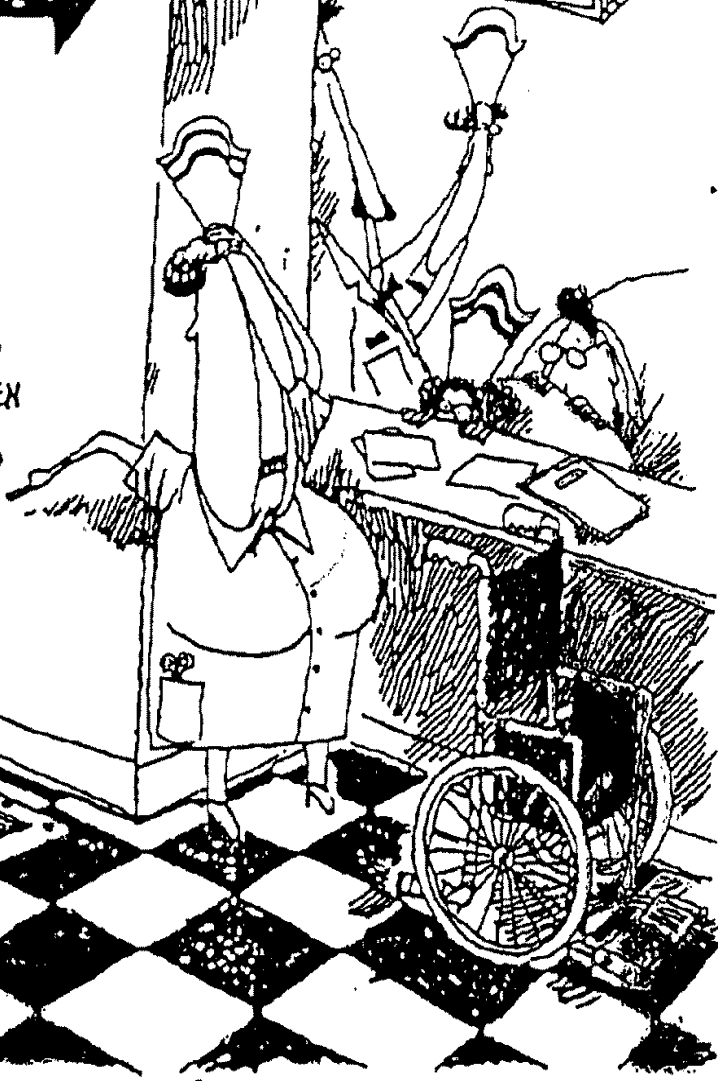
- Medical needs
- Service needs [patient expectations]
- Business needs
- Health care needs [impact on entire system]



EMERGENCY
DEPT →

TRIAGE
↓

PUSH
TO OPEN



C. Brown,
HealthWeek

The ED

- Structure imposed on chaos
- Irregular shift work
- Infinitely expandable
- Unacquainted teamwork
- Failure to staff for peak volumes
- Gaps in specialty coverage



The ED Patient

- Unscheduled
- Under stress
- Incomplete information
- Altered mental status



The ED Patient Presentations

- Unlimited illnesses and injuries
- May need rapid intervention
- Unpredictable
- 24/7/365



The ED

Caring for the patient in
their time of need

24/7/365

ED Quality

Have I helped
the patient?

ED Quality



Cupcake dispensing ATM Atlanta, GA

Quality

- Rule out life threats
 - Address why this patient is here at this time for this particular problem
- OR
- Save lives
 - Actual reason for coming [ARC]

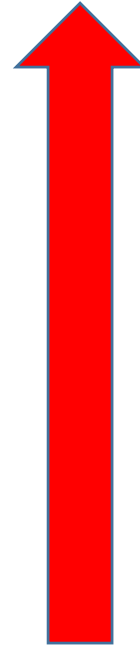
Reference: C Hobgood, R Ruviello, NJ Jouriles, G Hamilton. The emergency medicine core competencies: communication and interpersonal skills. Acad Emerg Med 9 1257 - 1269, 2002

Life and Death

- Healthy
- Symptoms
- Disease
- Sick
- Shock
- Death



Standard
Approach



Emergency
Medicine
Approach

Quality

- People skills
 - The patient forms an opinion in the first 12 seconds
 - Sit down and be quiet!!
 - Communicate interest, concern and empathy, communicate availability, follow - up, be honest and positive
- Reference: R Davidhizar, R Shearer. J Pract Nurs. 48 : 10 - 14, 1998

Efficiency

- ED always open
 - 24/7/365 or 168 hours per week
- Office
 - 8a – 6p M – F and 8a-12p Sat or 54 hours per week
- In USA, EP's account for 4% of workforce but treat 10% of all patients
- Reference: Pitts SR, Carrier ER, Rich EC, Kellermann AL. Where Americans get acute care: increasingly, it's not at their doctor's office. Health Affairs (Millwood) 2010;29:1620-9.

Efficiency

- ED is one stop shopping where an entire diagnostic work up can be completed in 4 hours
 - Diagnostic unit
- As an outpatient, could take days to weeks for same
 - Initial visit, send for labs / x-rays, wait for results, follow up visit
- Reference Pilgrim R, Martinez R, Jouriles N Hufstetler G, Wise P, Wise R, Ackler J, Soremekun OA, Carrier E. Administrative challenges to regionalization. Acad Emerg Med 17 1359 – 63, 2010

Quality

- Government regulation
- www.hospitalcompare.com



Quality

- Pneumonia
 - Antibiotics
 - Within 4 hours
 - Appropriate
 - Oxygen saturation
 - Blood cultures
 - Multiple studies show 1 – 2 % yield
 - At what cost [time, money]?
- Sepsis 1: the most complex of all

Quality

- Outcomes
- Quality measures
– JAMA August 19, 2009

COMMENTARY

CLINICIAN'S CORNER

Heart Failure Performance Measures and Outcomes Real or Illusory Gains

Gregg C. Fonarow, MD
Eric D. Peterson, MD, MPH

HEART FAILURE IS ONE OF THE MOST DEADLY AND costly conditions in the United States.¹ Among Medicare beneficiaries, heart failure is the most frequent cause of hospitalization and death, with 1-year readmission and mortality rates of 65% and 35%, respectively.² While a number of therapies and interventions have been demonstrated to improve heart failure outcomes,¹ studies have consistently shown gaps, variations, and disparities in the application of these therapies in routine clinical practice.³

In 1996, the Centers for Medicare & Medicaid Services (CMS) first implemented a program to track and improve the quality of heart failure care in hospitals. The CMS subsequently aligned with The Joint Commission to create a national standardized "core" set of 4 heart failure performance metrics: measuring left ventricular function; using angiotensin-converting enzyme inhibitors in patients with left ventricular systolic dysfunction; providing complete heart failure discharge instructions; and providing smoking cessation counseling in current or recent smokers.⁴ The original heart failure process measures have been modified only once since then by adding use of angiotensin II receptor blockers as an alternative to angiotensin-converting enzyme inhibitors. Under the Medicare Prescription Drug, Improvement and Modernization Act, all hospitals were required to submit these performance metrics to receive full CMS reimbursement for services provided. Further incentives to improve these measures were later provided when the CMS began publicly releasing hospital-specific performance data and linking hospital performance with financial rewards via the pay-for-performance demonstration project.

Hospitals must devote significant resources to document, abstract, and report these mandated performance measures. It is conservatively estimated that centers spend 22.2 minutes per heart failure case to abstract the data, which im-

aggregate amounts to more than 400 000 person-hours spent each year by US hospitals.⁴ Hospitals spend millions more dollars to purchase and maintain ORYX-certified systems needed to transmit the required data. In addition to these required resources, centers that wish to excel on the evaluation metrics often make huge additional investments in care redesign, implementing multisource data integration systems and hiring quality improvement staff to verify that patients receive these measured elements or have documented reasons not to.

Clinicians, hospitals, payers, health care reformers, patients, and the public have been led to believe that committing these resources was highly worthy and that improvement in these measures would be closely linked to improved outcomes.⁵ Quality improvement campaigns have promoted the idea that increased conformity with process measures would improve the efficiency of heart failure care and reduce longitudinal costs. Furthermore, the public and patients have been told to use these publicly reported measures to make informed decisions about their health care.⁵

Data to date, however, call these assumptions into question. On the positive, from 2002 to 2007, provision of discharge instructions improved from 31% to 78%, left ventricular function measures improved from 82% to 95%, use of angiotensin-converting enzyme inhibitors or angiotensin II receptor blockers for left ventricular systolic dysfunction improved from 74% to 90%, and provision of smoking cessation advice improved from 42% to 96% (FIGURE).^{6,7} This improved process performance led many to conclude that these national campaigns were a resounding success at improving care, saving lives, and reducing health care expenditures. Yet it is critical to close the loop and verify that changes in care processes were actually associated with improved patient outcomes, because prior cross-sectional studies had called this into question.^{8,9}

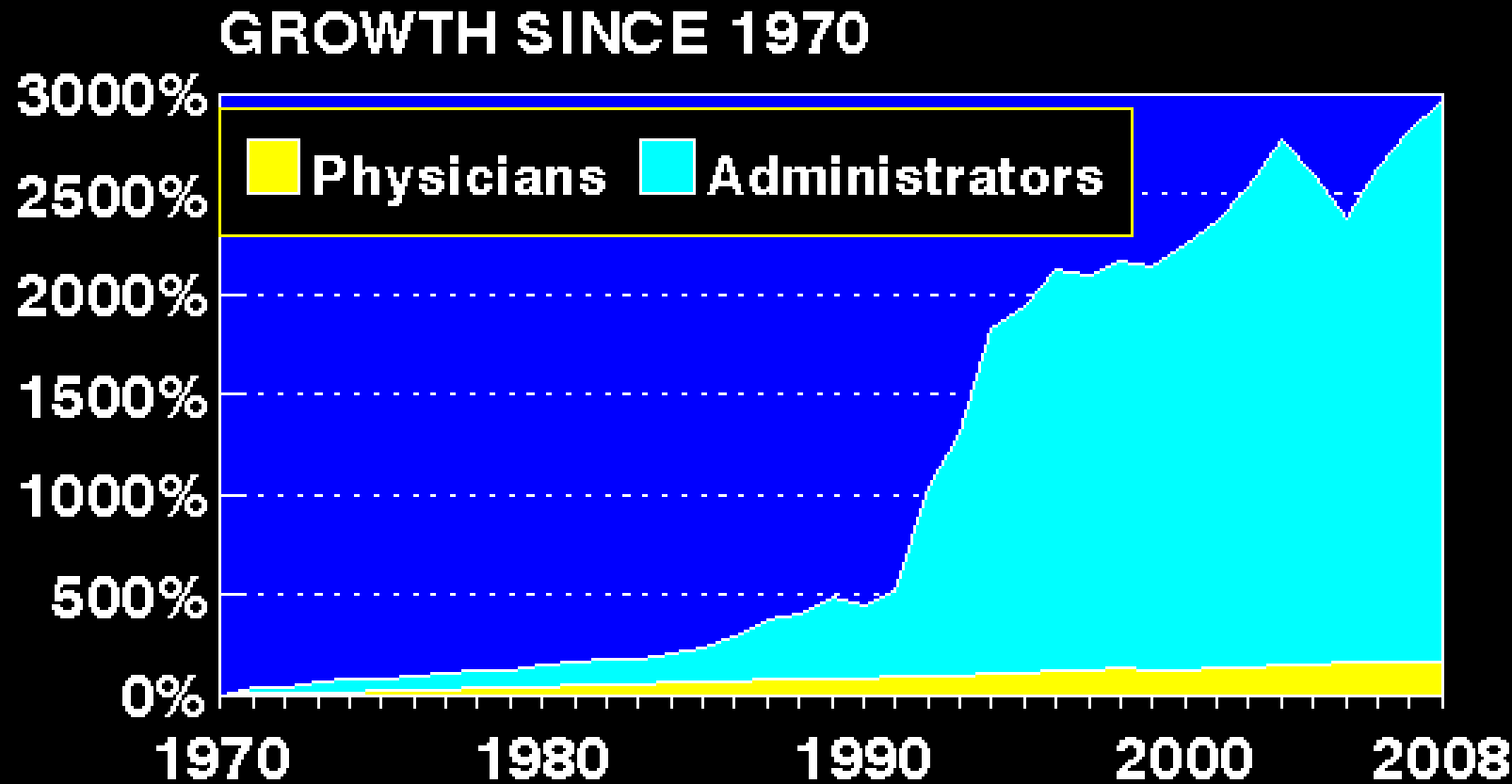
From a longitudinal perspective, huge temporal shifts in these 4 heart failure process performance measures

Author Affiliations: Ronald Reagan UCLA Medical Center, Los Angeles, California (Dr Fonarow); Duke Clinical Research Institute and Department of Medicine, Duke University School of Medicine, Durham, North Carolina (Dr Peterson).
Corresponding Author: Gregg C. Fonarow, MD, Ahmanson-UCLA Cardiomyopathy Center, 10833 LeConte Ave, Room 47-123 CHS, Los Angeles, CA 90095-1679 (gfonarow@mednet.ucla.edu).

CME available online at www.jamaarchivescme.com and questions on p 808.

792 JAMA, August 19, 2009—Vol 302, No. 7

Growth of Physicians and Administrators 1970-2008



Source: Bureau of Labor Statistics; NCHS; and analysis of CPS

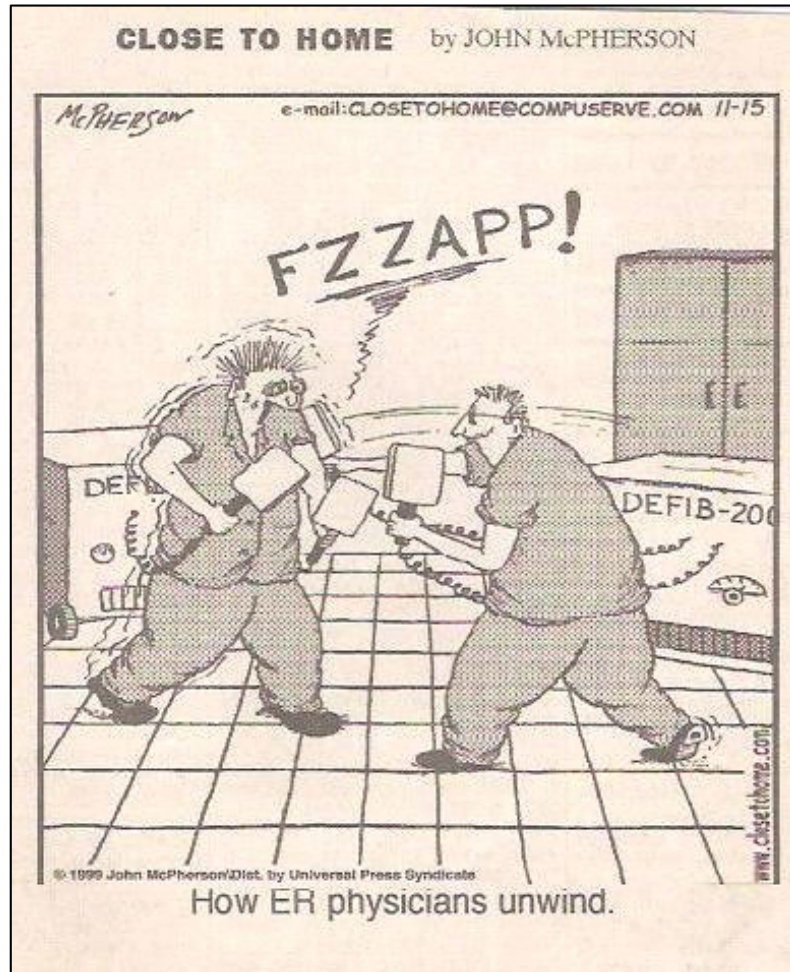


Sanders, Lyn & Ragonetti Associates, Trial Lawyers

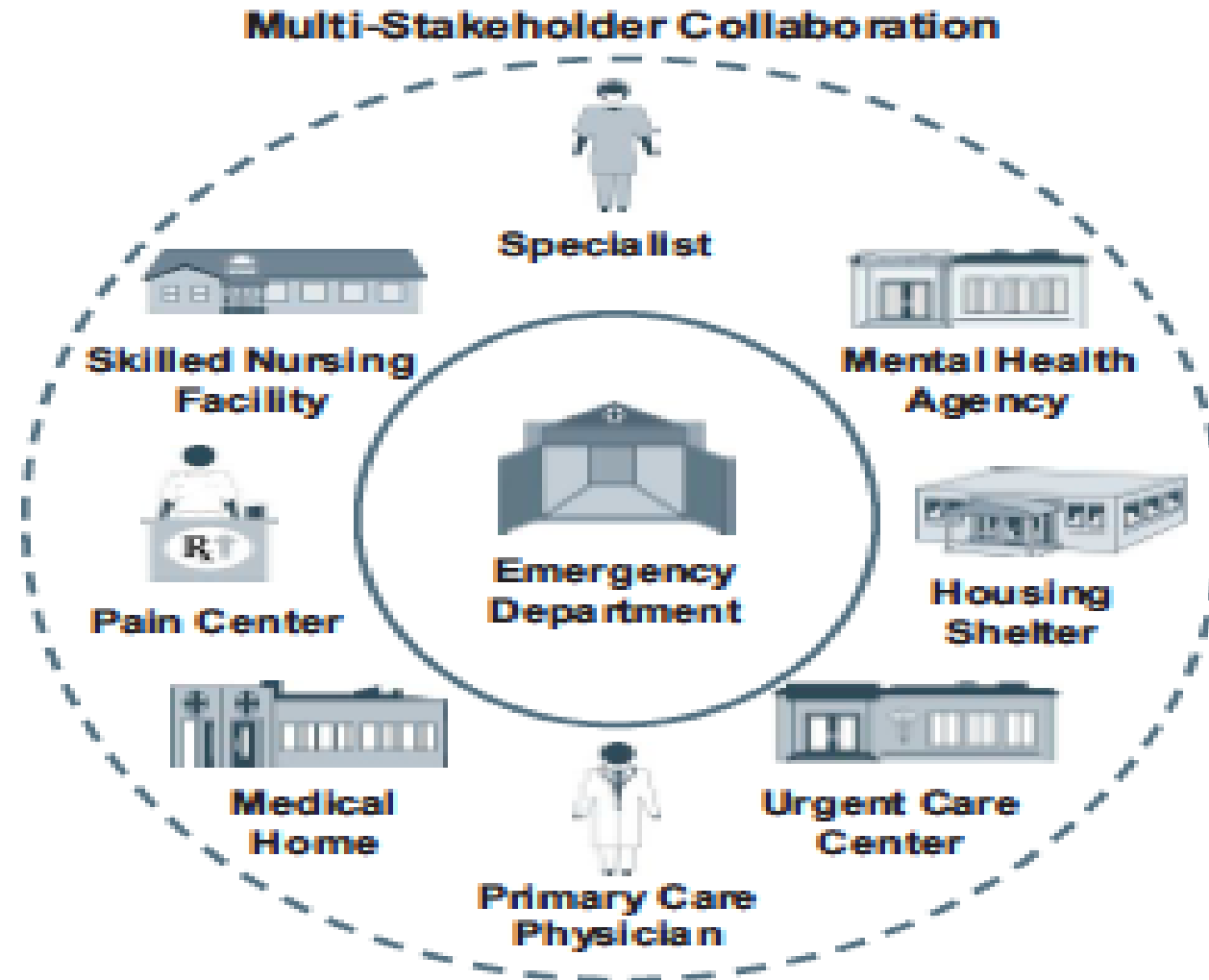
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ED Operations

Better Operations Means Better Care



The ED as Hub of the Health Care System



Community-Based Health Care



Home
Care
Services

Extended
Care
Facility

Community
Mental Health

Ambulatory
Surgical

Primary
Care

The Unscheduled Care System

EMS ~ ED ~ Urgent Care ~ Ask-A-Nurse

Women's
Services

Diagnostic
Services

Clinical Decision
and
Observation
Services

Medical Patient
Hospitalist
Service

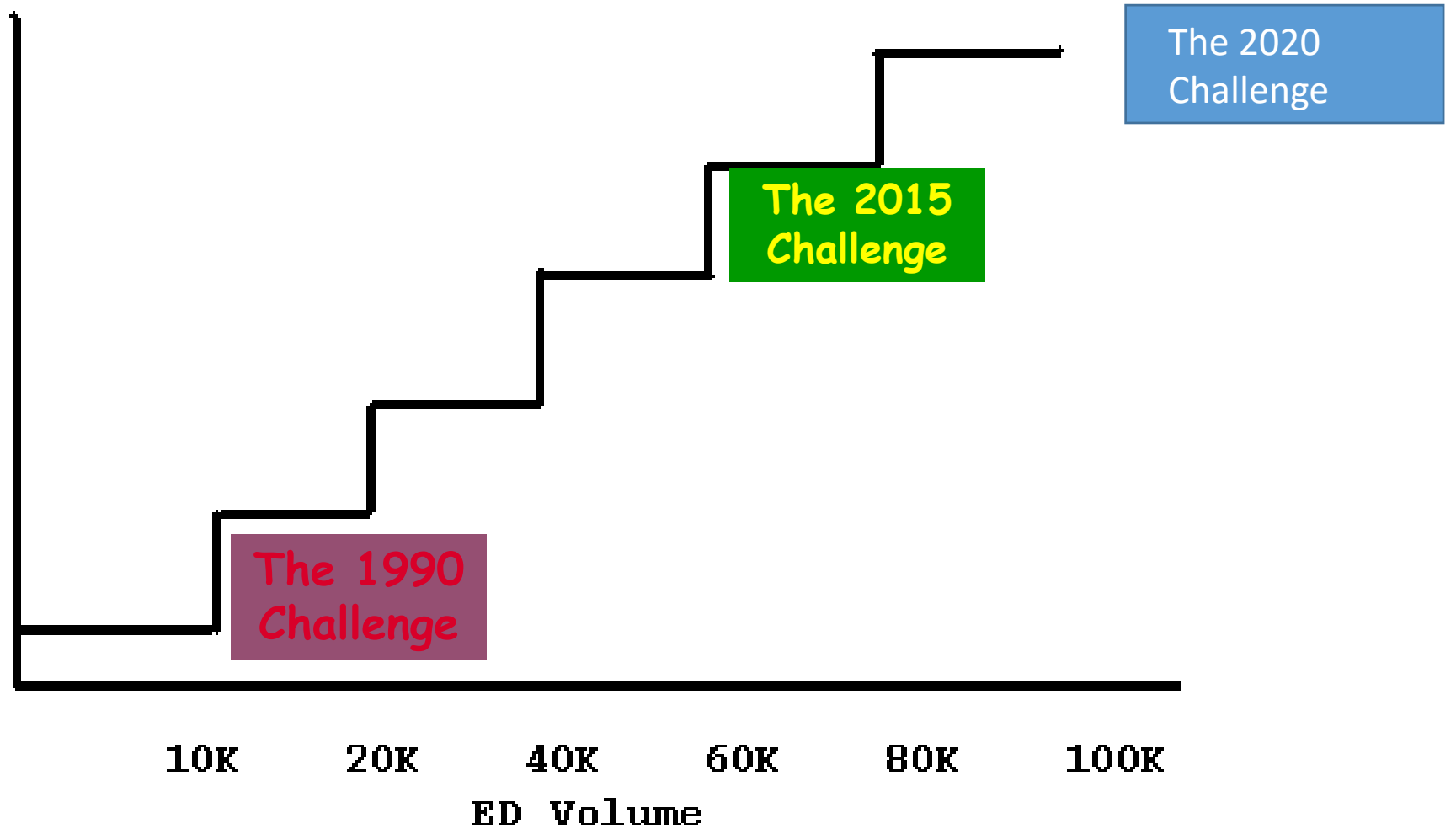
Surgical Centers
of
Excellence

Specialty
Services



Hospital-Based Health Care

ED Trends in the USA

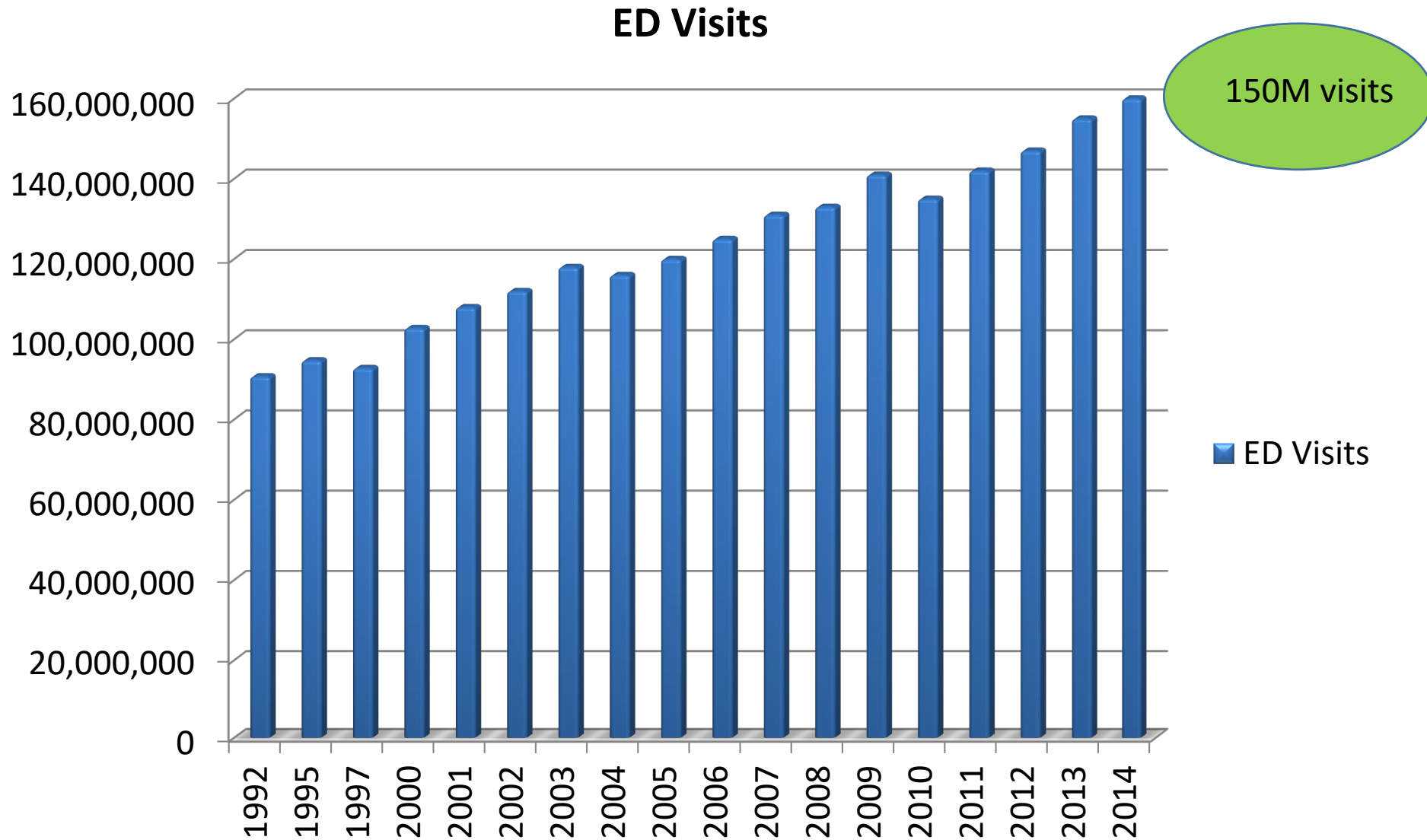


ED Visits

- The number of USA ED visits has increased significantly since 1990
 - Exception: Covid



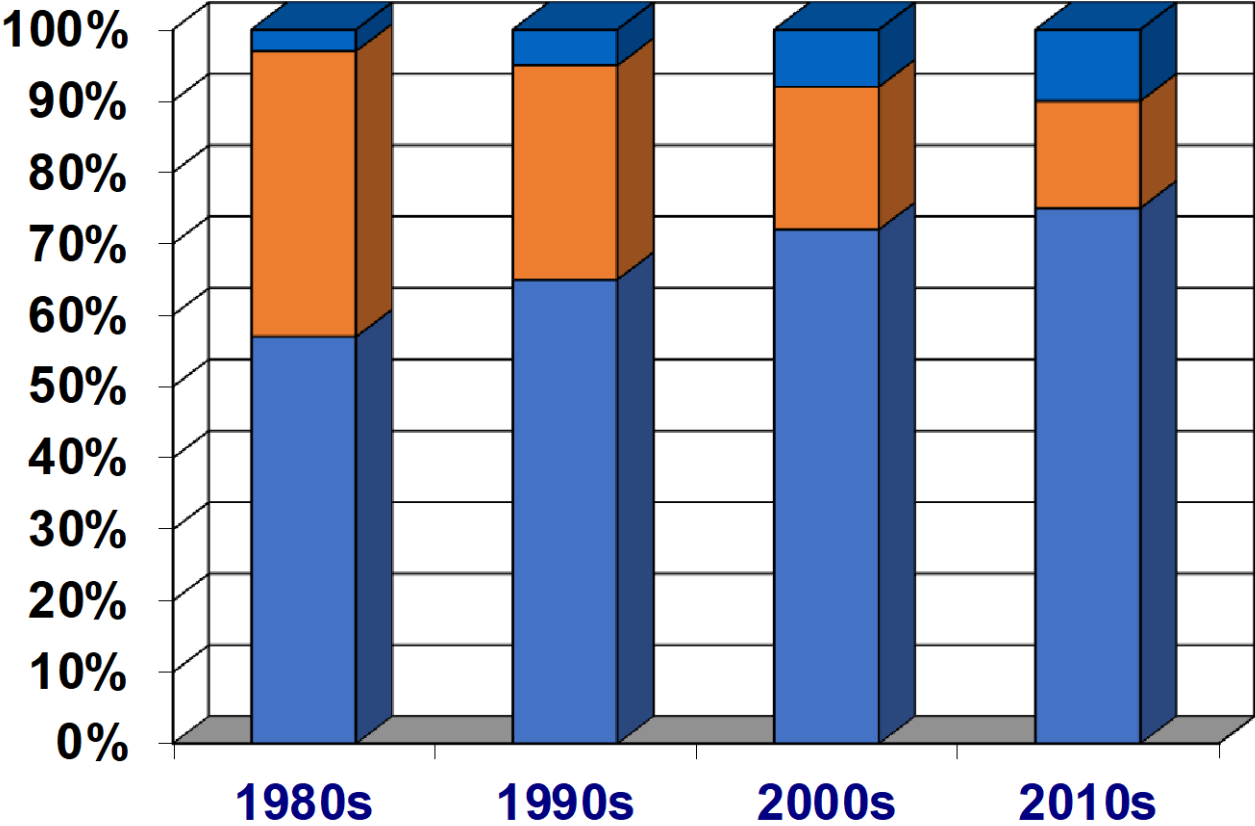
The CDC Data: Americans Vote With Their Feet



ED Trends in the USA

- 2.5% more patients per year since 1990
- Injury is 29% of ED patient load
 - Highest injury rates are over age 75
- The ED is seeing older, complex, high acuity medical patients
 - Including those who had their life saved by the ED or EMS previously
 - Many with several complex, chronic conditions

Patient Trends Over Time

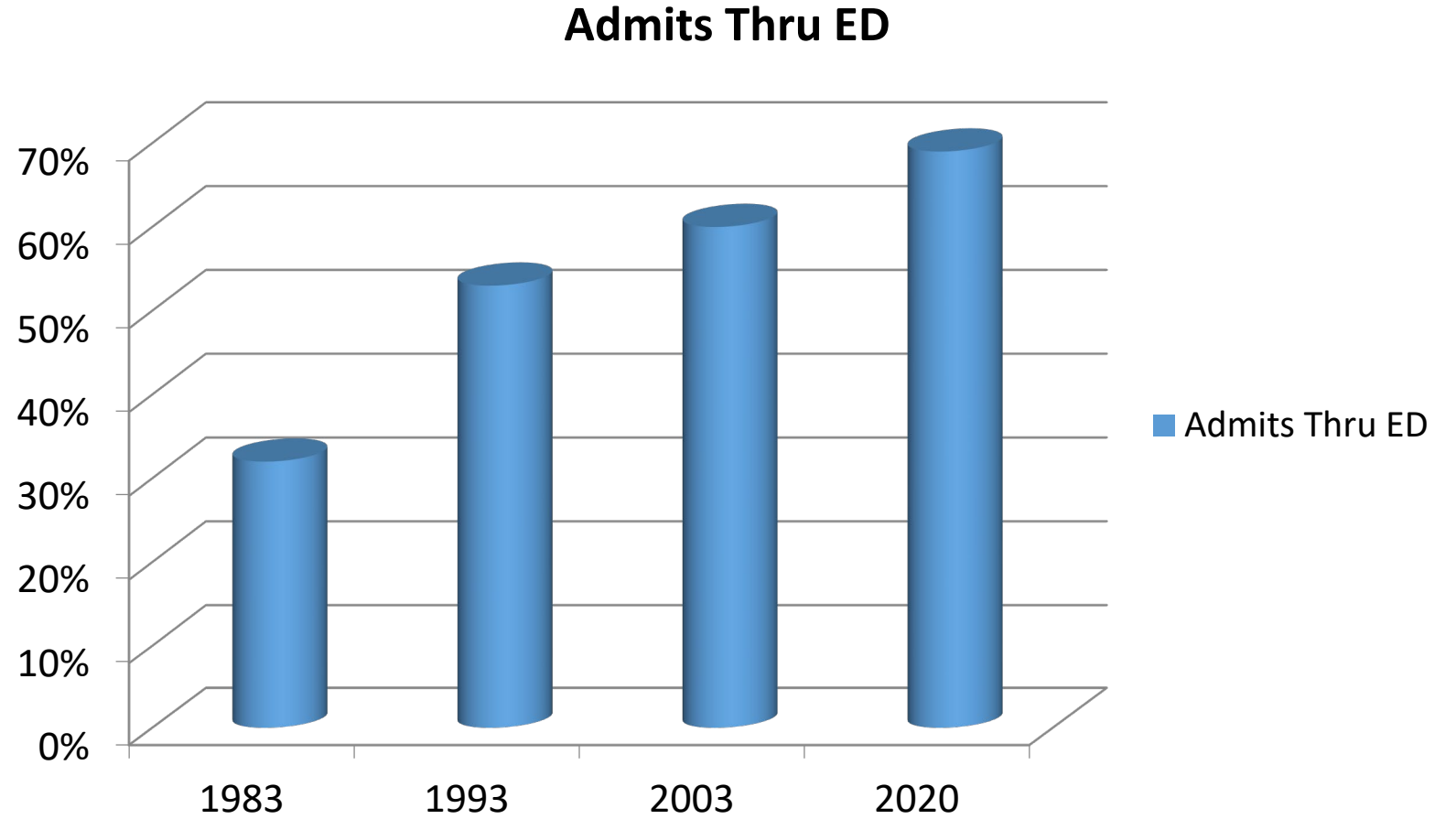


Significant interest
in this volume

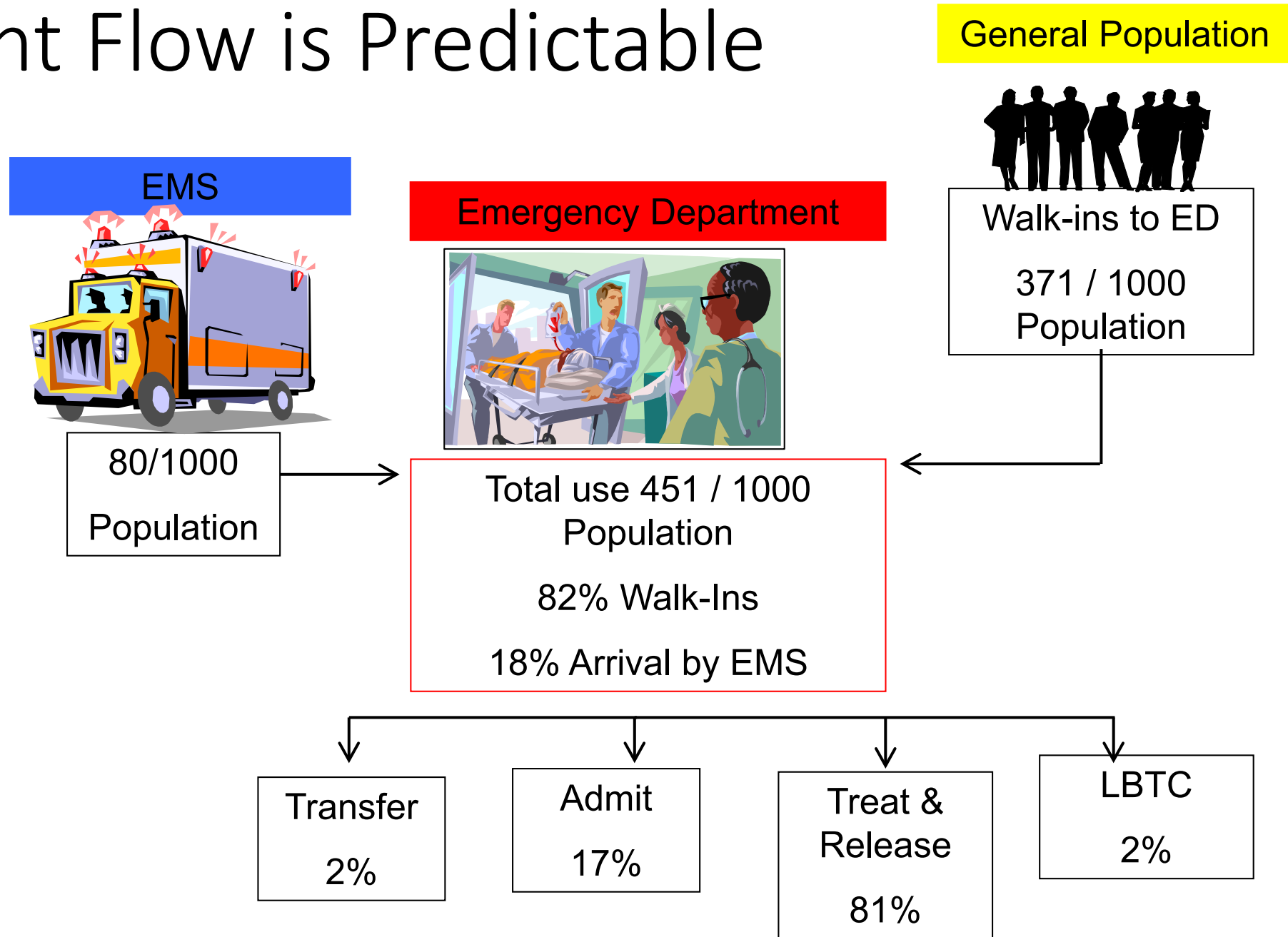


- Mental Health
- Injury
- Illness

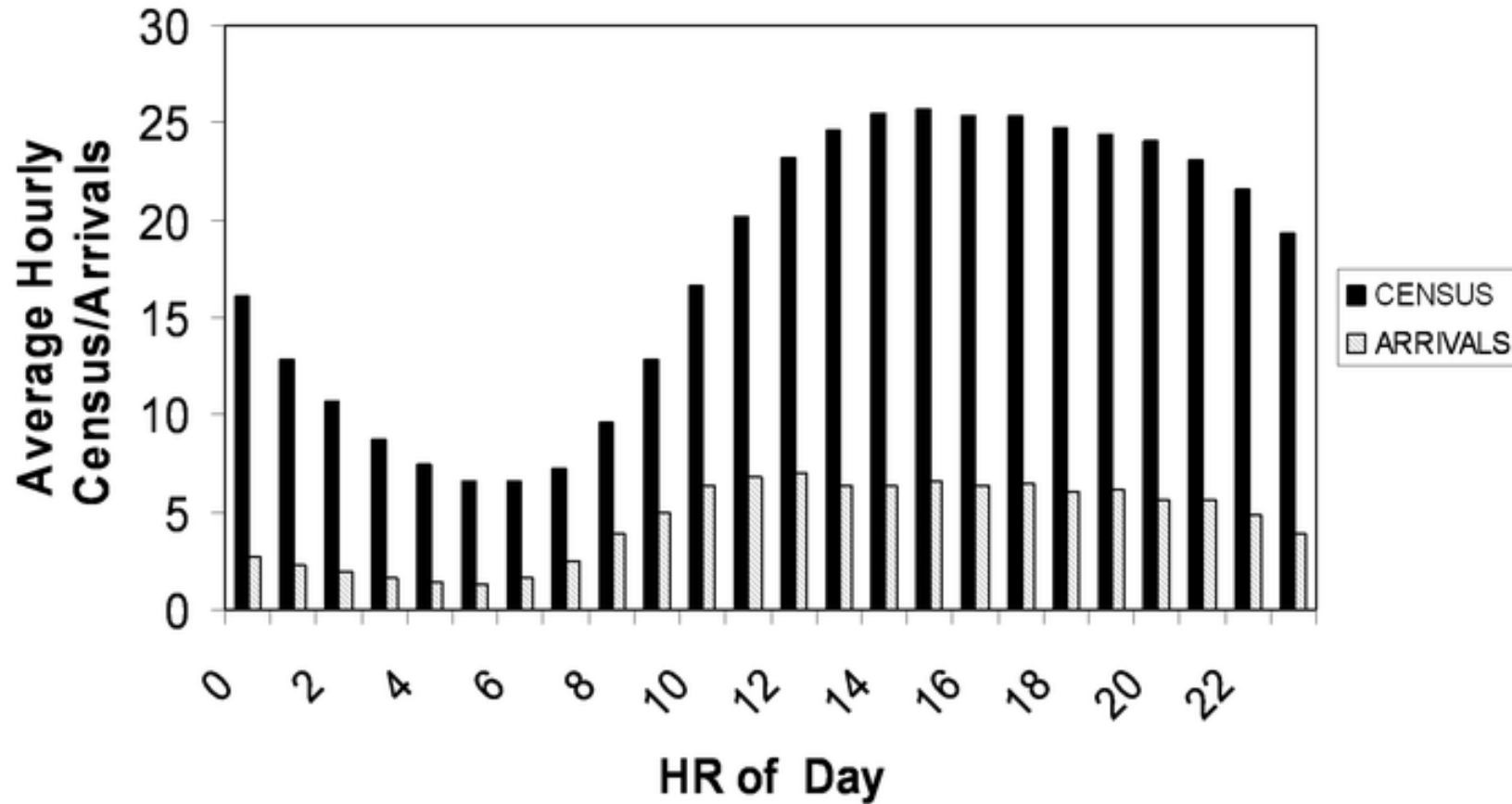
ED Admission Rate Over Time



Patient Flow is Predictable



ED Hourly Census And Arrivals

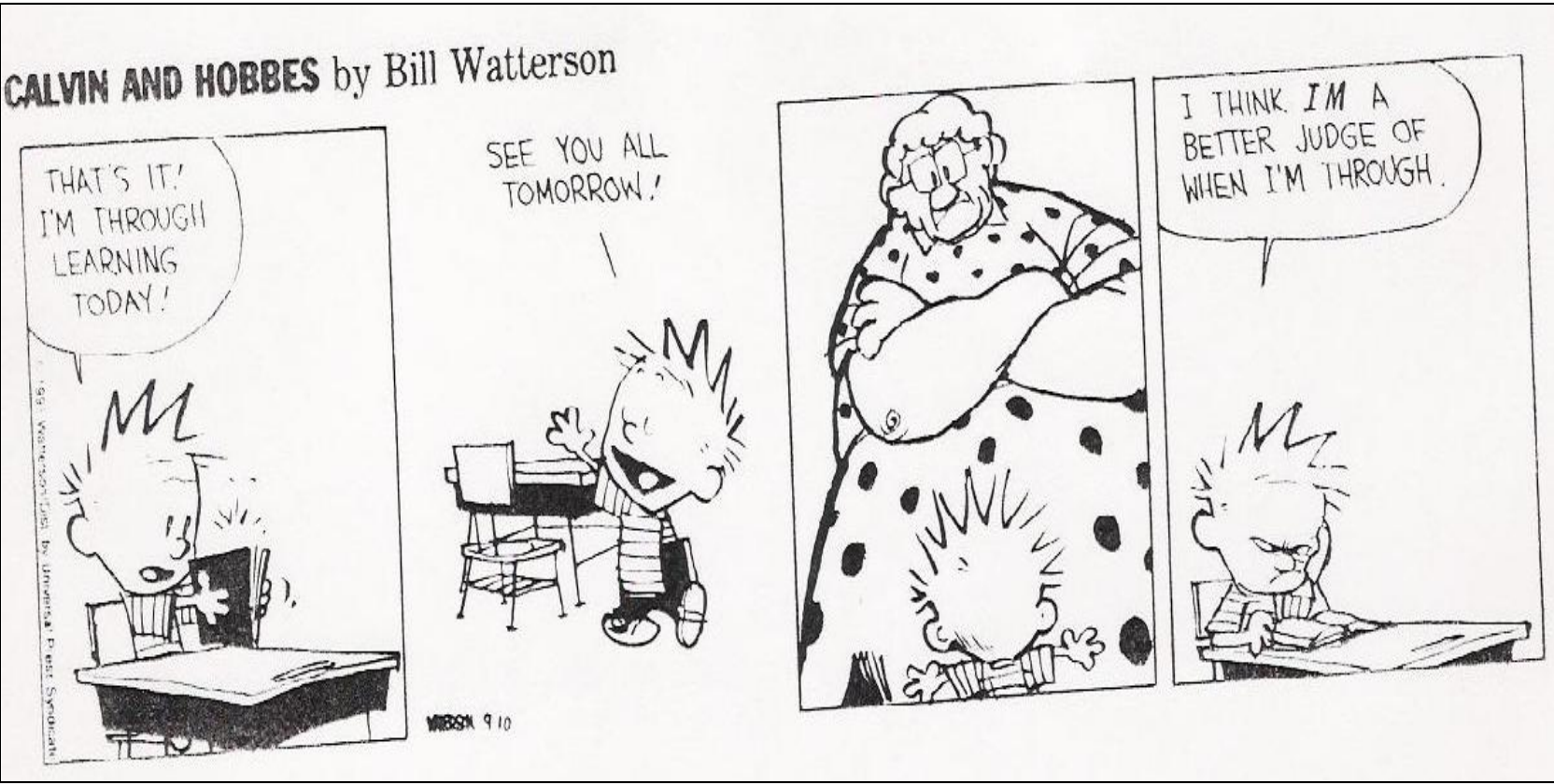


ED Operational Metrics

Rock – n – Roll Hall of
Fame and Museum
Cleveland, OH



First EDDBA Operations Summit - 2006



Mr. Watterson is from Chagrin Falls, Ohio

First EDDBA Benchmarking Summit

- How do we define each step of the ED operation?
 - Arrival time
 - Admit time
- How do we measure?
- Which metric is the most important?

First EDBA Operations Summit

Emergency Department Performance Measures and Benchmarking Summit

Shari Welch, MD, James Augustine, MD, Carlos A. Camargo, Jr., MD, Charles Reese, MD

Abstract

The findings are presented of a consensus group created to address the standardization of performance measures for emergency medicine. This group, whose members have affiliations with most major organizations interested in emergency medicine performance, benchmarking and quality improvement, was tasked with standardizing definitions pertinent to emergency department performance measures, creating a set of general and operational measures, developing a comparison system for benchmarking and creating a plan for the dissemination of this information. The formation of this group, the problem statement, and the mission statement for the summit are all described, and the consensus document is presented.

ACADEMIC EMERGENCY MEDICINE 2006; 13:1074-1080 © 2006 by the Society for Academic Emergency Medicine

Keywords: quality improvement, benchmarking, ED operations, performance measures, process improvement

Emergency leaders increasingly are faced with challenges that go beyond the scope of traditional clinical medicine and department staffing. A thorough understanding of quality-improvement principles and benchmarking now is necessary for emergency department (ED) leaders to be successful in providing patient-centered care, improving customer satisfaction, and evaluating service initiatives. Providing state-of-the-art, evidence-based clinical care is not the only focus, and emergency physicians and nurses now are being asked also to provide safe, timely, efficient, and cost-effective care. The measures that allow emergency practitioners to gauge and measure their success in these areas are lacking, and even basic definitions have not been promulgated.

Outside agencies also are intensely interested in ED operations. With the potential for terrorist activity, pandemic flu, and natural disasters to create human casualties, government leaders are developing preparedness plans for communities. Those plans require forecasting of hospital surge capacity and ED capability. Communi-

ties have been made aware of diversion and rerouting of emergency medical services (EMS) patients, but there are no definitions for those activities. Further, these activities do not reliably predict the state of available resources for any individual ED or hospital. In addition, the Centers for Medicare and Medicaid Services (CMS) are interested in applying pay for performance (P4P) to organizations and physicians and in seeking definitions of adequate and outstanding performance. Without industry-driven standards in place that are developed by emergency-service leaders, CMS likely will develop its own definitions and indicators.

Although others have written about clinical quality measures,^{1,2} and indeed many of these parameters are being tracked via the regulatory requirements mentioned in the remainder of this section, the establishment of operational benchmarks for emergency medicine (EM) has been slower to evolve. The measurement of time intervals in the ED and the tracking of patients who leave before they are seen have become de facto markers for quality and efficiency in the literature,³⁻⁷ although no standardized definitions for these markers have been put forth or accepted.

There are three major reasons compelling emergency practitioners to standardize the language, terminology, and implementation of performance measures and benchmarking practices. These are as follows:

1. Regulatory burdens. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) now is pursuing clinical quality improvement (QI) data in the form of Core Measures. Any facility that does not have in place the infrastructure to track these data risks its accreditation. These measures are likely to

From the LDS Hospital and University of Utah School of Medicine (SW), Salt Lake City, UT; Emory University (JA), Atlanta, GA; Massachusetts General Hospital (CAC), Boston, MA; and Christiana Care (CR), Wilmington, DE.

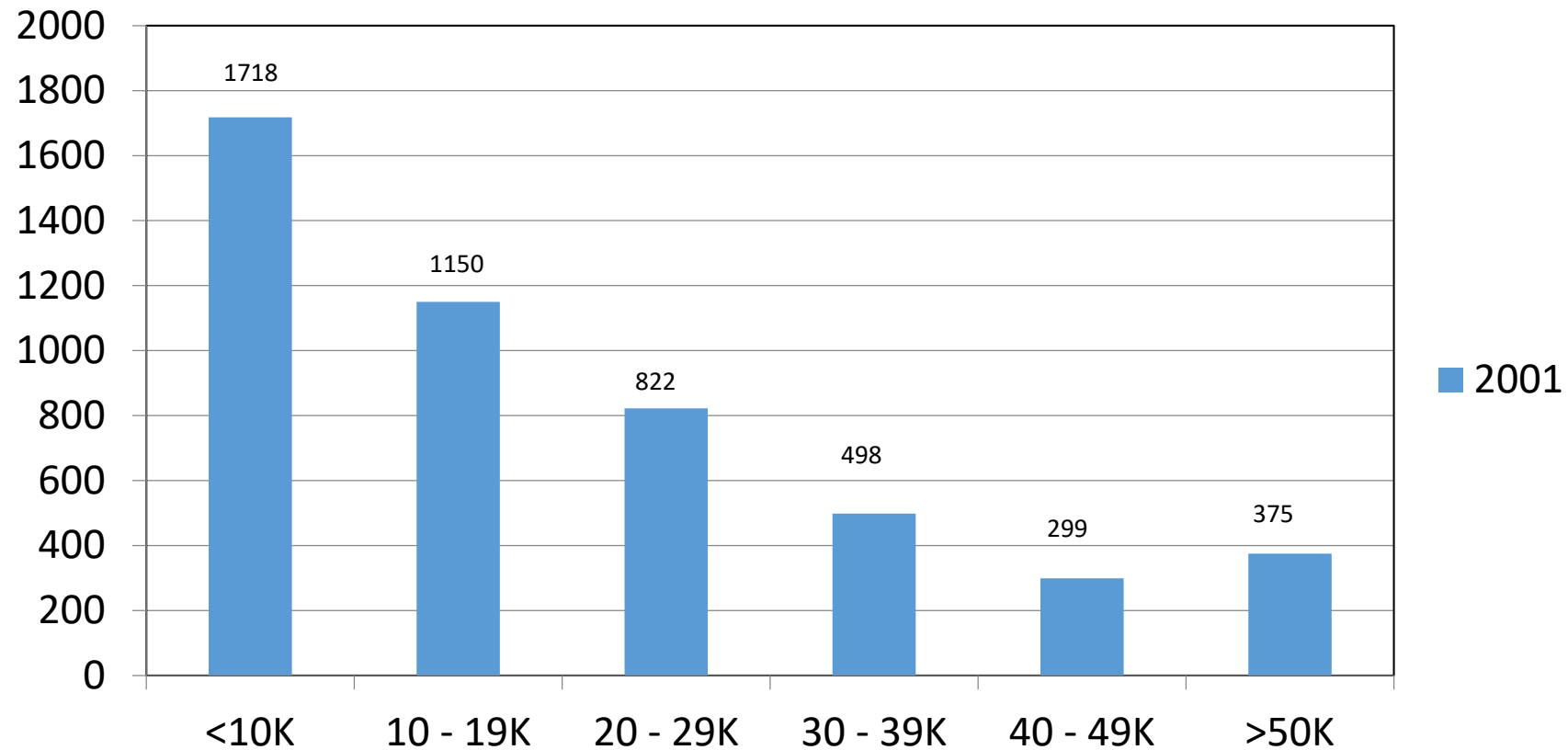
Individuals, agencies, and programs that contributed to the proceedings are listed in Appendix A.

Received March 26, 2006; revision received May 16, 2006; accepted May 17, 2006.

Address for correspondence and reprints: Shari Welch, MD, Emergency Department, LDS Hospital-University of Utah School of Medicine, 8th Avenue and C Street, Salt Lake City, UT 84143. Fax: 801-947-5782; e-mail: sjwelch@networld.com.

First EDBA Operations Summit USA ED Annual Volumes

2001



Number of USA ED's with these annual visit volumes

Source: NEDI

Second EDBA Benchmarking Summit 2010

- Any changes in definitions since previous summit?
- Which are the most important metrics now?



Second EDBA Benchmarking Summit

Emergency Department Operations Dictionary: Results of the Second Performance Measures and Benchmarking Summit

Shari J. Welch, MD, Suzanne Stone-Griffith, RN, Brent Asplin, MD, MPH, Steven J. Davidson, MD, MBA, James Augustine, MD, and Jeremiah D. Schuur, MD, MHS, on behalf of The Second Performance Measures and Benchmarking Summit and the Emergency Department Benchmarking Alliance

Abstract

The public, payers, hospitals, and Centers for Medicare and Medicaid Services (CMS) are demanding that emergency departments (EDs) measure and improve performance, but this cannot be done unless we define the terms used in ED operations. On February 24, 2010, 32 stakeholders from 13 professional organizations met in Salt Lake City, Utah, to standardize ED operations metrics and definitions, which are presented in this consensus paper. Emergency medicine (EM) experts attending the Second Performance Measures and Benchmarking Summit reviewed, expanded, and updated key definitions for ED operations. Prior to the meeting, participants were provided with the definitions created at the first summit in 2006 and relevant documents from other organizations and asked to identify gaps and limitations in the original work. Those responses were used to devise a plan to revise and update the definitions. At the summit, attendees discussed and debated key terminology, and workgroups were created to draft a more comprehensive document. These results have been crafted into two reference documents, one for metrics and the operations dictionary presented here. The ED Operations Dictionary defines ED spaces, processes, patient populations, and new ED roles. Common definitions of key terms will improve the ability to compare ED operations research and practice and provide a common language for frontline practitioners, managers, and researchers.

ACADEMIC EMERGENCY MEDICINE 2011; 18:539-544 © 2011 by the Society for Academic Emergency Medicine

Regulatory burdens, emergency department (ED) operations management, and research require emergency medicine (EM) experts to improve the timeliness and efficiency of emergency care. Patient flow standards and performance measurements are increasingly required by regulatory bodies like the Centers for Medicare and Medicaid Services (CMS) and the Joint Commission,¹⁻⁴ compelling us to use a precise and standardized vocabulary in defining, measuring, commu-

nicating, and reporting ED operations. If EM does not craft the language necessary to communicate the work we do, no doubt regulators will.

Emergency departments of varying sizes, characteristics, and locations around the country are testing techniques to improve ED efficiency, quality, safety, and cost.⁵⁻⁹ Mary Washington Hospital in Fredericksburg, Virginia, for example, has implemented an intake model that involves a "pivot nurse" and "patient

From Intermountain Healthcare-Institute for Health Care Delivery Research (S.J.W.), Salt Lake City, UT; the Hospital Corporation of America (SS), Nashville, TN; the Department of Emergency Medicine, Mayo Clinic (BA), Rochester, MN; the Department of Emergency Medicine, Maimonides Medical Center (SD), Brooklyn, NY; the Emergency Department Benchmarking Alliance (JA), Centerville, OH; and the Department of Emergency Medicine, Brigham and Women's Hospital (JDS), Boston, MA. Received October 28, 2010; revision received November 9, 2010; accepted November 22, 2010.

A list of The Second Performance Measures and Benchmarking Summit attendees is available in Table 1. (Listing does not imply endorsement of this document, but shows the diversity of representation at the summit.)

Information on the Emergency Department Benchmarking Alliance can be found at EDBenchmarking.org.

The summit was sponsored by the Emergency Department Benchmarking Alliance.

The authors have no relevant financial information or potential conflicts of interest to disclose.

Supervising Editor: Manish Shah, MD.

Address for correspondence and reprints: Shari J. Welch, MD; e-mail: sjwelch568@aol.com.



Kunming, China



The Swarm



Third EDBA Benchmarking Summit 2014

- What's changed?
 - How well do the previous definitions work?
 - What is the effect of government reporting?
- What is the effect of technology?



EDBA Summits Four and Five

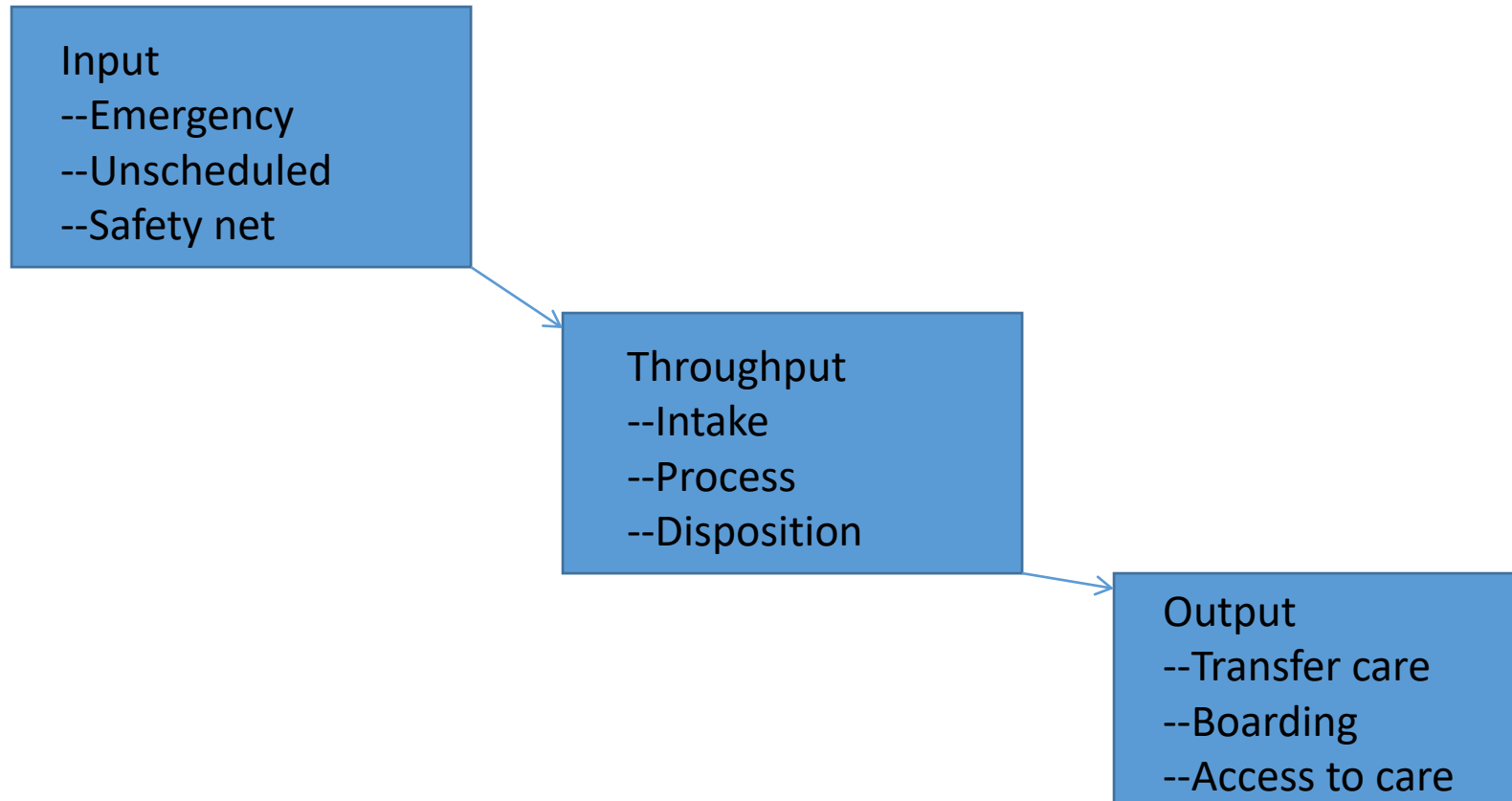
- Four 2018 Boarding and financial terms
- Five 2022 EMR, behavioral and surge capacity



What We've Learned







Reference: Asplin BR. Does ambulance diversion matter? Ann Emerg Med 41: 477, 2003

Bed Minutes

The Most Precious Commodity

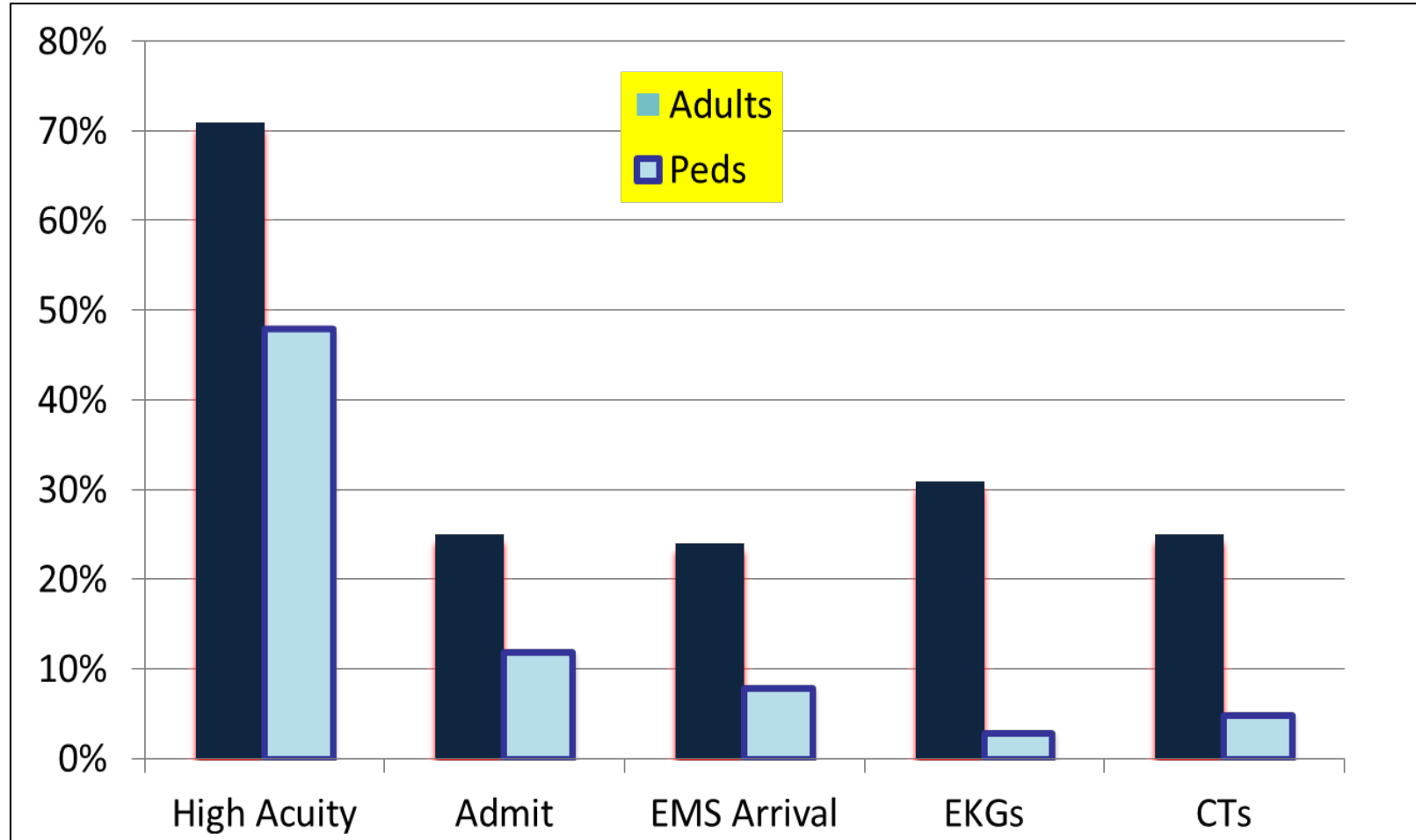


ED Size and Type Matter

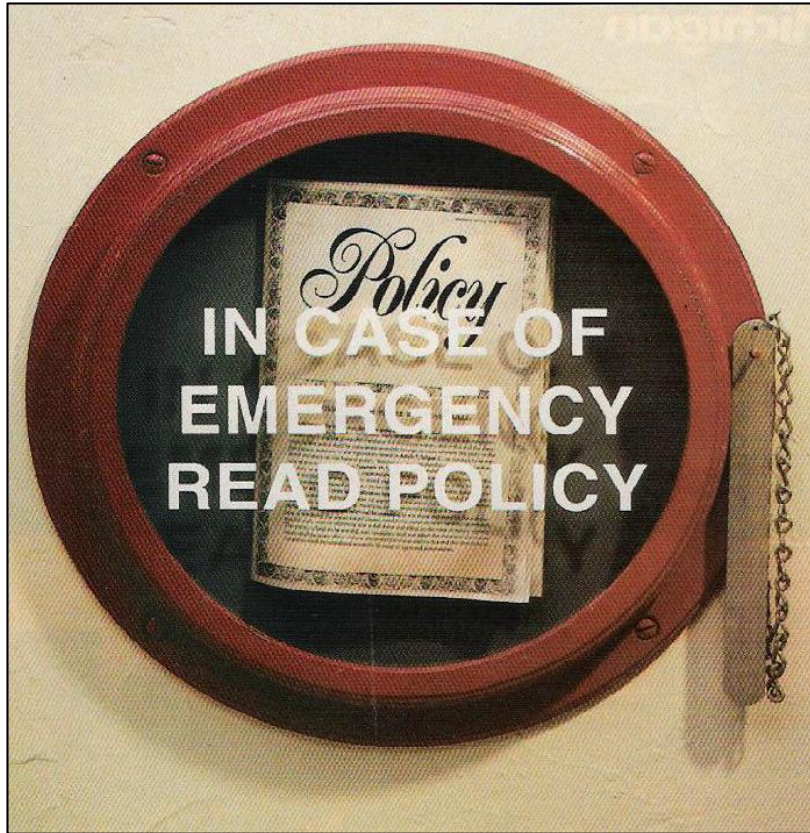
- Easy to perform well with one patient
- Much more difficult when many patients arrive
 - > 100, 000 annual visits [USA, Singapore]
 - > 300,000 annual visits [Saudi Arabia]
- Performance changes with ED size, type and acuity



Adult and Pediatric ED's Are Different

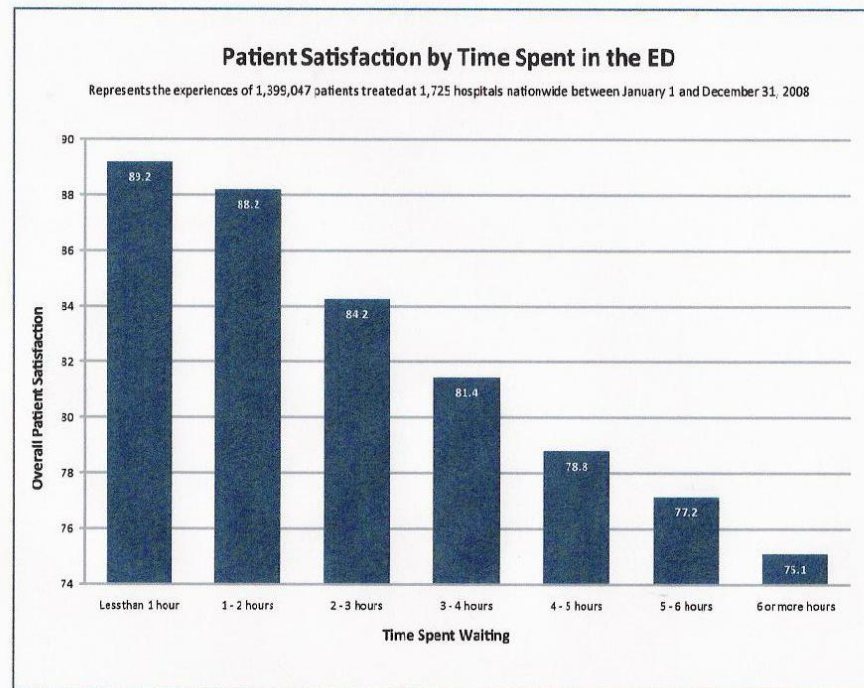


Why We Need Operations Data

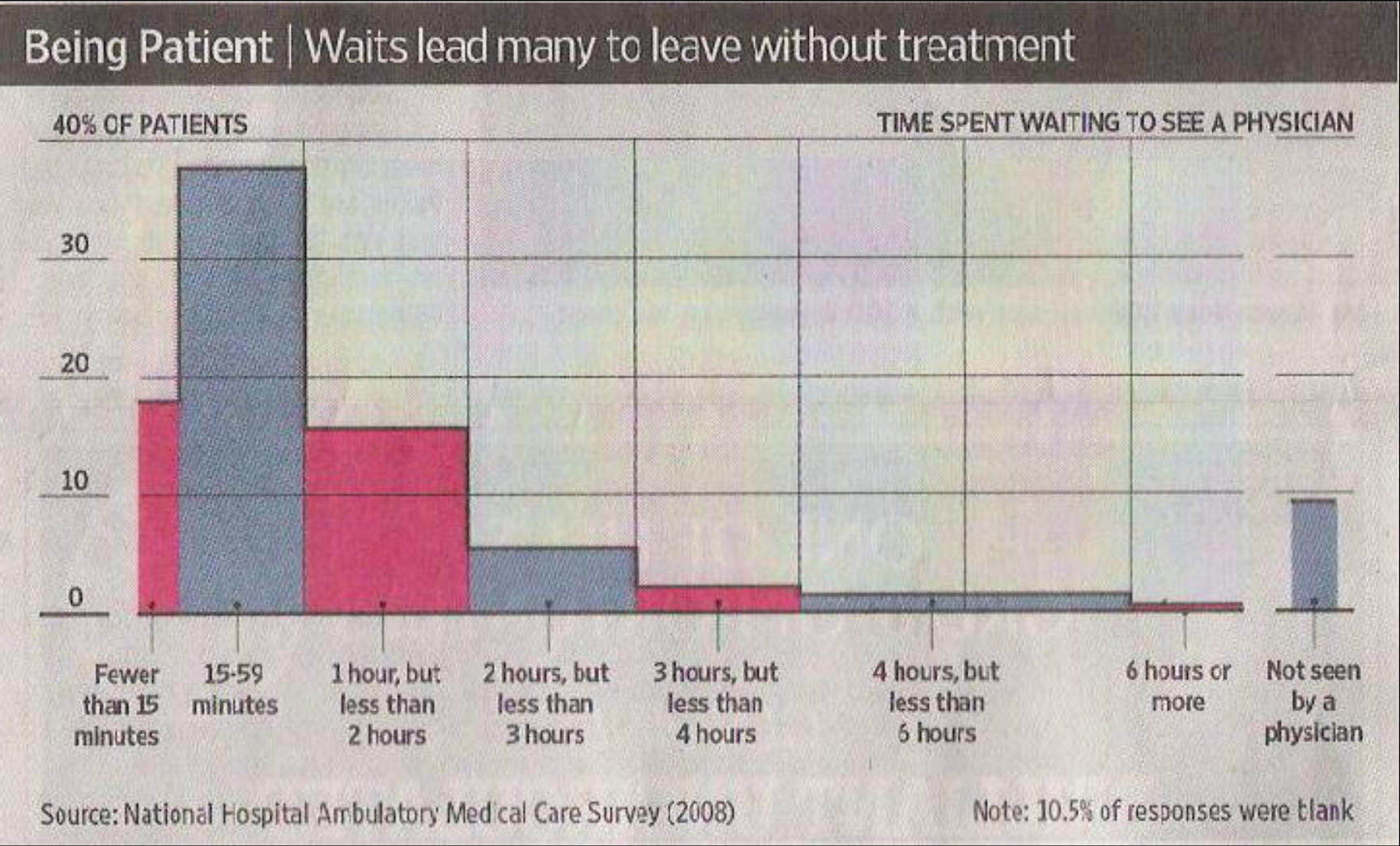


Patient Satisfaction

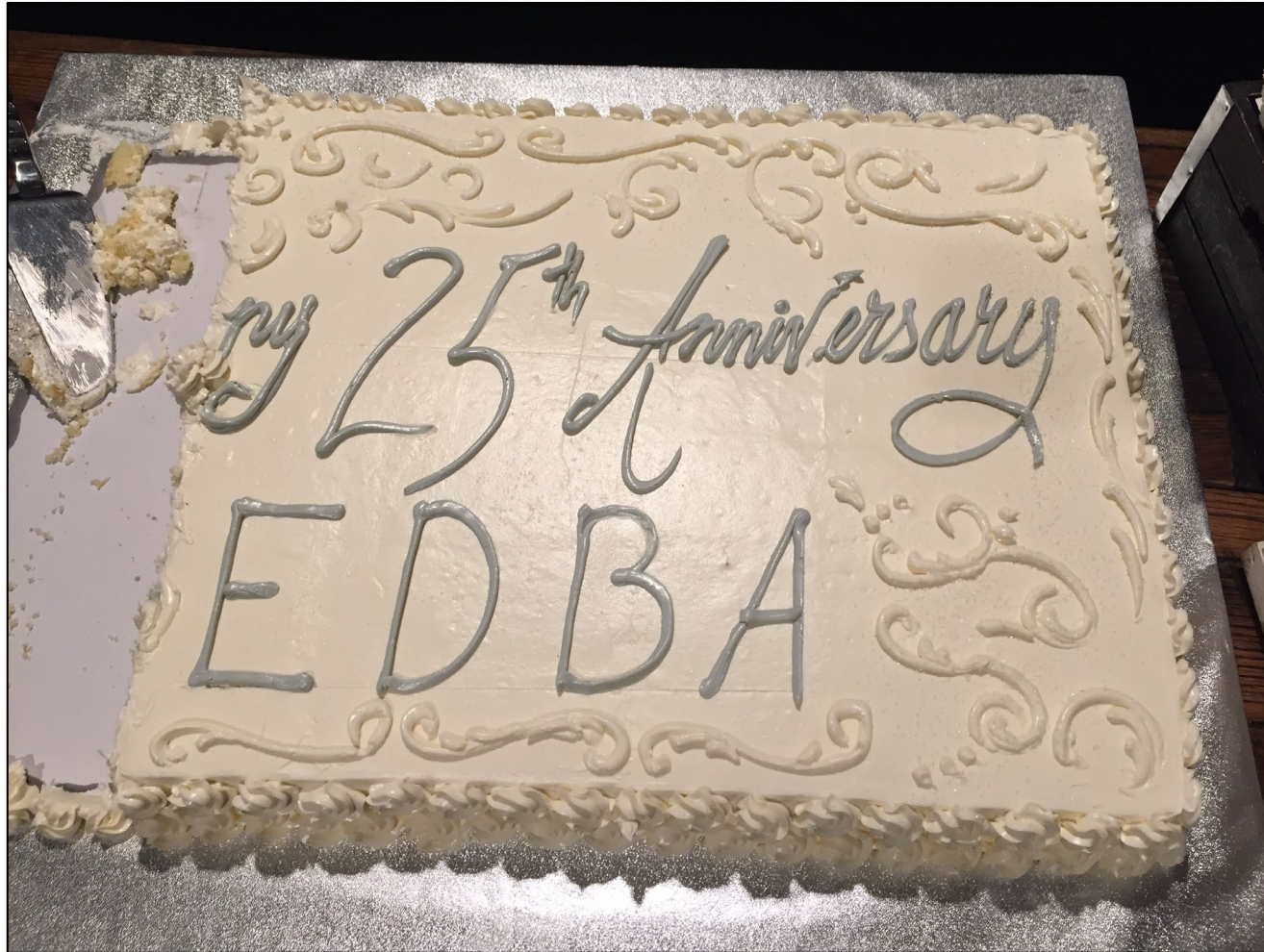
Patients who spend more than two hours in the emergency department report less overall satisfaction with their visits than those who are there less than two hours. Since much of the time in the ED is spent waiting—in the waiting room, in the exam area, for tests, for discharge—reducing wait times should have a direct positive impact on patient satisfaction. The best way to get patients treated and discharged from the ED is to address overcrowding in general and get the critical patients through the ED and to the appropriate floor faster. This frees up resources for the less-critical patients to be cared for and discharged from the ED.



Left Before Treatment Complete



Let's Measure



The EDDBA has collected ED operational data since 1994. In 2021 data was collected from 1625 ED's representing 48 M visits

ED Process

- Arrival, registration, triage, placement in treatment area, nurse assessment, physician assessment, diagnostic testing, treatments, consultations, decision making, teaching, disposition planning, disposition implementation, payment, leaving
- 15 steps
- ED length of stay capped at 4 hours in UK
 - Save 2 minutes per step [30 minutes total] is 1/8 [12.5%] of total UK LOS

ED Efficiency

- Number of steps involved in ED care [doc, nurse, register, parking, social work, lab, x-ray, respiratory therapy ...]
- TJC & CMS regulations as barriers
- Arrivals are variable and can't be planned but number of visits and admits from ED are constant

Efficiency

- Measured as time
- Decrease time for each step of the process
- The overall improvement comes from the summary of many small savings

Efficiency

- ED design
 - Ergonomic
 - Less steps per task
 - All support services nearby
 - User friendly
 - Matches needs of the providers
 - Good feng shui
 - Healthy design equals healthy patients

ED Operations

- To manage ED operations, need metrics
 - Right design, staff and system
- Need data on the time for every step
- Pick where to make changes
- In USA, biggest obstacle is disposition implementation, frequently the time from admission decision until the patient leaves for the inpatient bed

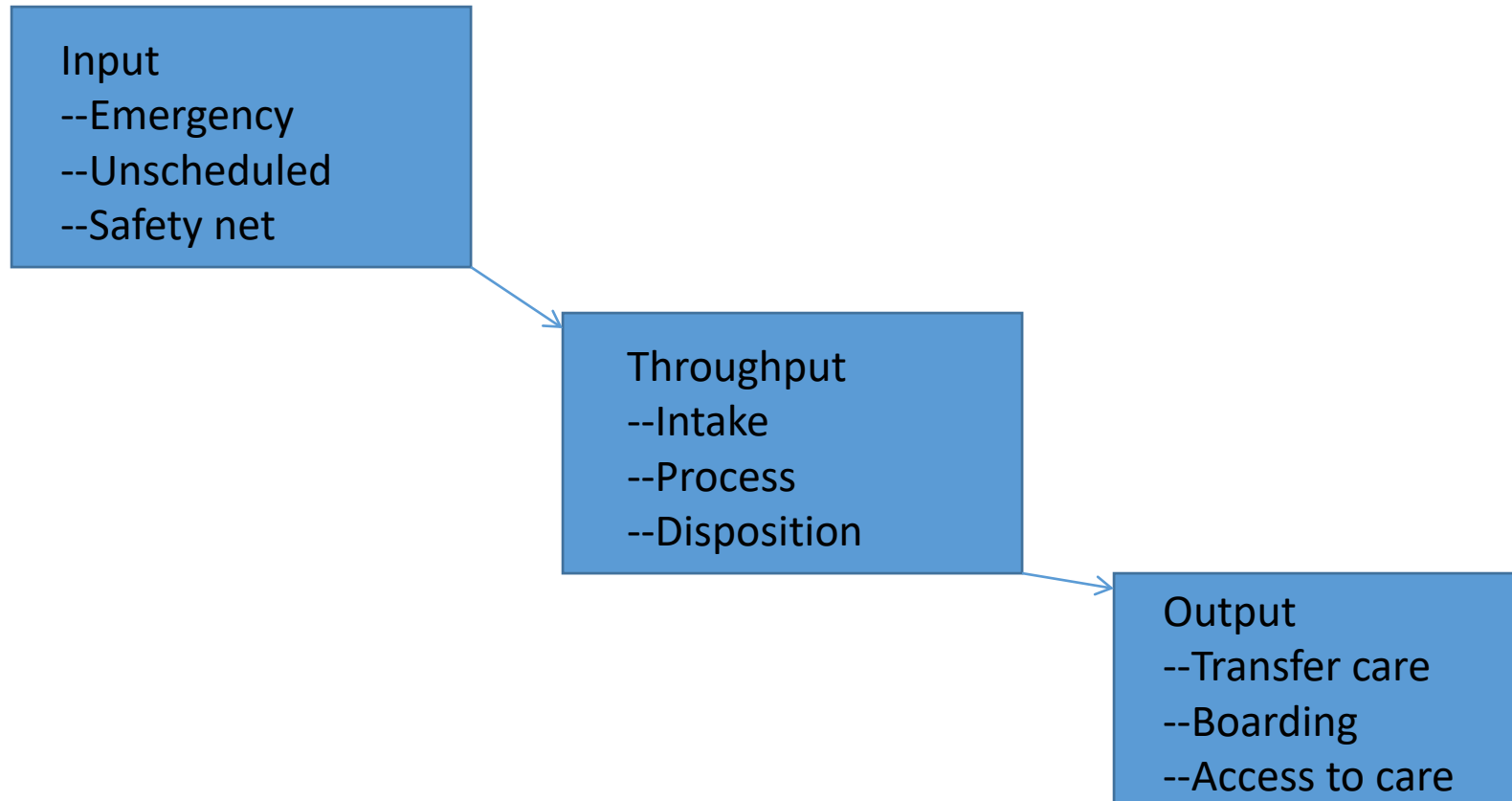
Efficiency

- Practical suggestions
 - Decrease number of times anyone needs to do something – e.g. diagnostic and treatment orders all at once so that the nurse makes one trip
 - Organize supplies to match need – e.g. all blood drawing supplies together
 - Decrease number of steps – e.g. place patient in closest room
 - Tell patients what to expect and how long it will take

Efficiency

- Diagnostic testing
- “How will that test change your management of this patient?”





Reference: Asplin BR. Does ambulance diversion matter? Ann Emerg Med 41: 477, 2003

Boarding Burden aka Exit Block

Percentage of Boarding Time				
ED cohort	Admit LOS	Board Time	Time to Decision	% Board Time
All**	288	112	176	39%
Over 100K	416	176	240	42%
80 to 100K	370	151	219	41%
60 to 80K	330	130	200	39%
40 to 60K	316	127	189	40%
20 to 40K	268	103	166	38%
Under 20K	230	74	156	32%
Adult ED	351	160	192	45%
Peds ED	264	96	168	36%

Effect of Emergency Department Crowding on Outcomes of Admitted Patients

Benjamin C. Sun, MD, MPP; Renee Y. Hsia, MD; Robert E. Weiss, PhD; David Zingmond, MD; Li-Jung Liang, PhD; Weijuan Han, MS; Heather McCreath, PhD; Steven M. Asch, MD

Study objective: Emergency department (ED) crowding is a prevalent health delivery problem and may adversely affect the outcomes of patients requiring admission. We assess the association of ED crowding with subsequent outcomes in a general population of hospitalized patients.

Methods: We performed a retrospective cohort analysis of patients admitted in 2007 through the EDs of nonfederal, acute care hospitals in California. The primary outcome was inpatient mortality. Secondary outcomes included hospital length of stay and costs. ED crowding was established by the proxy measure of ambulance diversion hours on the day of admission. To control for hospital-level confounders of ambulance diversion, we defined periods of high ED crowding as those days within the top quartile of diversion hours for a specific facility. Hierarchic regression models controlled for demographics, time variables, patient comorbidities, primary diagnosis, and hospital fixed effects. We used bootstrap sampling to estimate excess outcomes attributable to ED crowding.

Results: We studied 995,379 ED visits resulting in admission to 187 hospitals. Patients who were admitted on days with high ED crowding experienced 5% greater odds of inpatient death (95% confidence interval [CI] 2% to 8%), 0.8% longer hospital length of stay (95% CI 0.5% to 1%), and 1% increased costs per admission (95% CI 0.7% to 2%). Excess outcomes attributable to periods of high ED crowding included 300 inpatient deaths (95% CI 200 to 500 inpatient deaths), 6,200 hospital days (95% CI 2,800 to 8,900 hospital days), and \$1.7 million (95% CI \$11 to \$23 million) in costs.

Conclusion: Periods of high ED crowding were associated with increased inpatient mortality and modest increases in length of stay and costs for admitted patients. [Ann Emerg Med. 2013;61:605-611.]

Please see page 606 for the Editor's Capsule Summary of this article.

A feedback survey is available with each research article published on the Web at www.annemergmed.com.

A podcast for this article is available at www.annemergmed.com.

0196-0644/\$-see front matter

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<http://dx.doi.org/10.1016/j.annemergmed.2012.10.026>

SEE EDITORIAL, P. 612.

INTRODUCTION

Background

Emergency department (ED) crowding has become an international health delivery problem.¹⁻³ Increasing frequency of ambulance diversion and left-without-being-seen visits have led the Institute of Medicine to describe US EDs as nearing "the breaking point,"⁴ and multiple other countries have experienced a surge of ED crowding during the past decade. National policy responses have varied from none to system-wide performance targets.²

Importance

Establishing a definitive relationship between ED crowding and subsequent mortality may motivate policymakers to address

ED crowding as a top public health priority. Limitations of previous studies assessing the effect of ED crowding on admitted patients include small hospital samples (n=1 to 6),⁴⁻⁸ lack of case-mix adjustment for comorbidities and primary illness diagnosis,^{3-6,8} lack of adjustment for potential hospital-level confounders, and restriction to specific subgroups such as patients with acute myocardial infarction,⁹ trauma,¹⁰ pneumonia,¹¹ or critical illness.¹²

Goals of This Investigation

To address these limitations, we studied the effect of ED crowding on patient outcomes in a regional cohort of adult patients admitted through an ED. ED crowding was represented by a hospital-normalized measure of ambulance diversion hours on the day of admission. We hypothesized that high ED crowding would be associated with increased inpatient

COMMENTARY

Emergency Department Crowding: The Canary in the Health Care System

Gabor D. Kelen, MD, Richard Wolfe, MD, Gail D'Onofrio, MD, MS, Angela M. Mills, MD, Deborah Diercks, MD, Susan A. Stern, MD, Michael C. Wadman, MD, Peter E. Sokolove, MD

DOI: 10.1056/CAT.21.0217

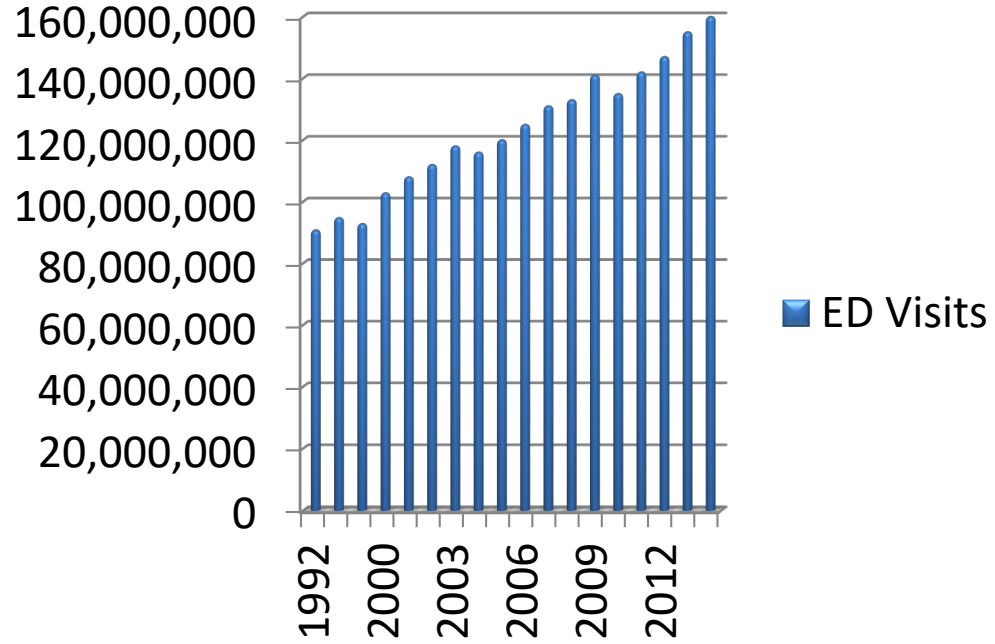
Emergency department crowding is a sentinel indicator of health system functioning. While often dismissed as mere inconvenience for patients, impact of ED crowding on avoidable patient morbidity and mortality is well documented but remains largely underappreciated. The physical and moral harm experienced by ED staff is also substantial. Often seen as a local ED problem, the cause of ED crowding is misaligned health care economics that pressures hospitals to maintain inefficient high inpatient census levels, often preferencing high-margin patients. The resultant back-up of admissions in the ED

ED Size Matters

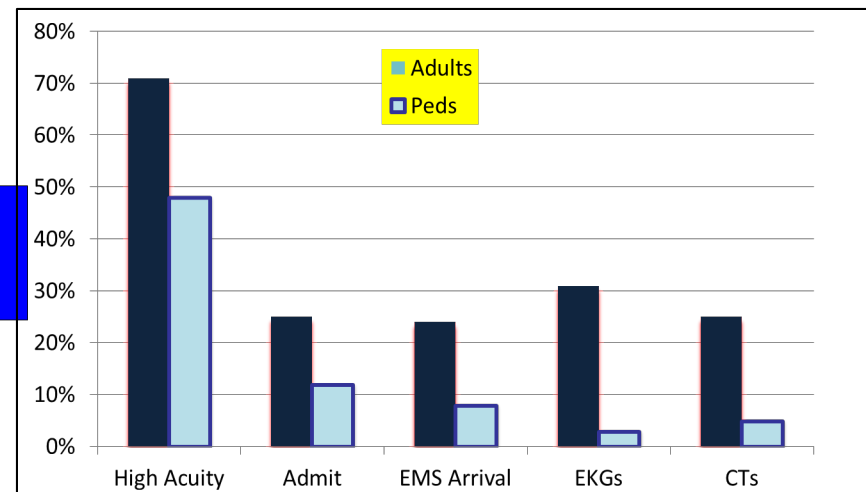
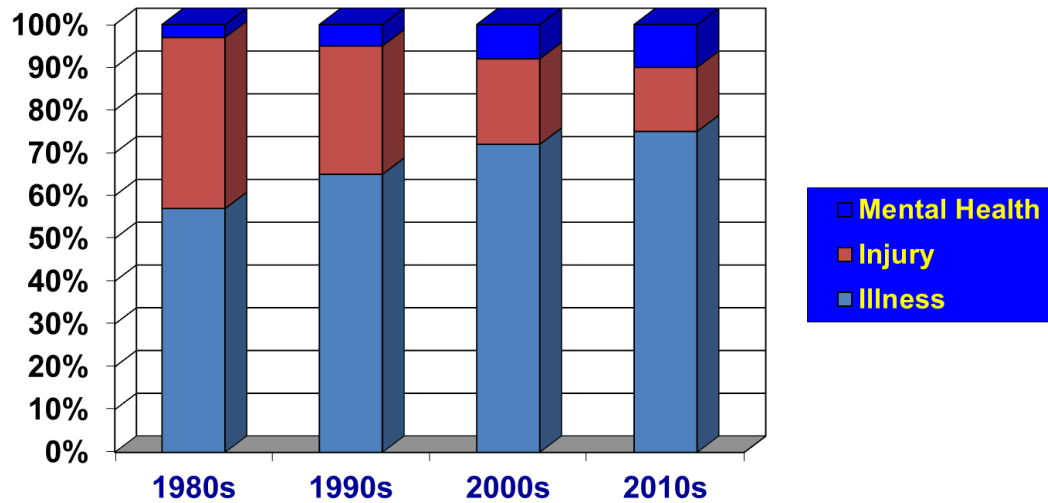
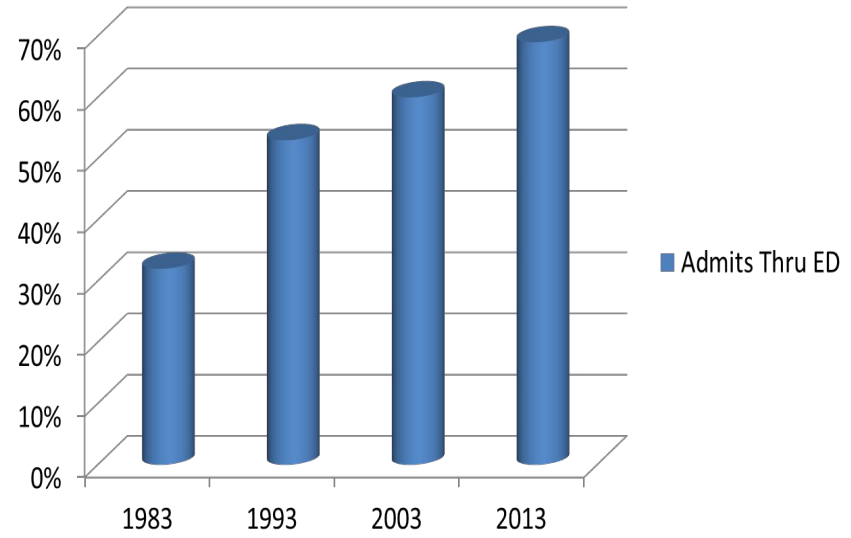
Created in Cleveland, OH
Statue: CLE airport



ED Visits

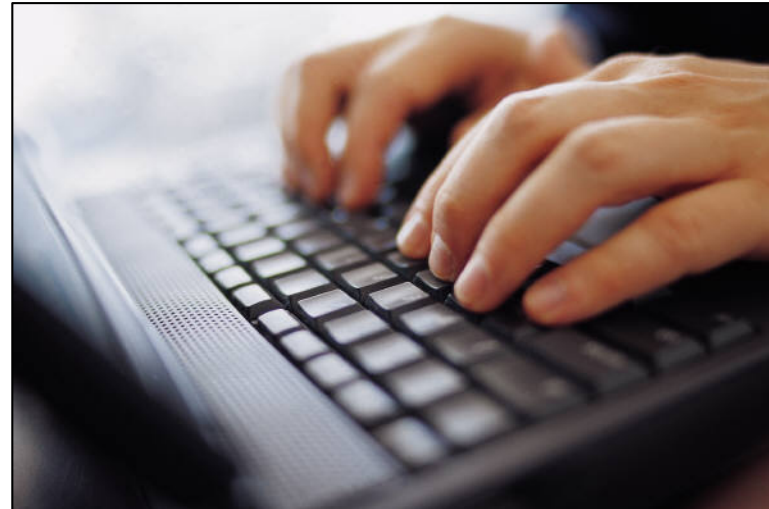


Admits Thru ED



ED Operations

- Every ED is different yet there are themes
 - Size matters
 - Acuity matters
 - Patient selection matters
 - EMS arrivals matter
 - Boarding really matters



ED Size: The EDDBA Answer

- ED size matters
- Size cohorts
 - 20,000 annual visits
 - Confounders
 - Teaching
 - Trauma
 - Chest pain center
 - Stroke center
 - Elderly
 - Transplant
 - Pediatric
 - Freestanding
 - EMS runs



EDBA Data Cohorts

Super Centers	Over 100K	Over 275 PPD
Very Large	Over 80,000	Over 220 PPD
Large	60 - 80K	165 - 220
Medium	40 - 60K	110 - 165
Small	20 - 40K	55- 110
Micro	Under 20K	Under 55
Pediatric and Freestanding EDs	Any Volume	Any PPD

EDBA Annual Data Survey 2018

	Total Sites	PPD	Hi CPT Acuity	Peds %	Admit %	Transfer %	EMS Arrival	EMS Arrival Admit	Median LOS	LOS Treat & Release	LOS Fast Track	LOS Admit	Boarding Time	LBTC	Door to Bed	Door to Doc	EKG per 100	Xray per 100	CT per 100	MRI per 100	US per 100	% Hosp Admits thru ED	Visits per Foot	Beds	Visits per Space	
Total All EDs																										
2018 results	1,937	109	69%	18.7%	17.5%	2.7%	17.5%	37.0%	181	155	106	305	116	2.7%	14	23	27	42	23	1.2	6	70%	2.8	28	1,491	
Over 120K EDs																										
2018 results	23	392	70%	13.8%	20.1%	0.8%	22.5%	38.2%	247	205	138	452	181	4.5%	16	34	34	49	24	1.7	7	74%	3.3	95	1,520	
100 to 120K EDs																										
2018 results	29	291	70%	12.6%	22.7%	2.7%	24.5%	40.5%	229	194	127	400	141	4.1%	19	30	34	45	26	2.0	8	66%	3.5	74	1,474	
80 to 100K EDs																										
2018 results	100	242	72%	13.8%	23.0%	1.1%	24.0%	43.3%	247	206	123	415	174	4.4%	21	33	31	45	28	1.8	7	68%	2.9	61	1,444	
60 to 80K EDs																										
2018 results	234	187	73%	11.3%	22.4%	1.7%	22.0%	42.0%	225	189	116	370	155	3.6%	15	27	32	46	29	1.9	8	66%	2.8	47	1,456	
40 to 60K EDs																										
2018 results	431	136	73%	11.9%	21.3%	2.0%	19.8%	41.3%	201	172	103	330	125	3.1%	16	24	31	43	27	1.5	7	69%	3.1	33	1,657	
20 to 40K EDs																										
2018 results	629	80	69%	13.4%	16.4%	2.5%	15.6%	35.5%	167	145	96	281	98	2.3%	13	21	25	41	22	0.9	6	72%	2.8	20	1,564	
Under 20K EDs																										
2018 results	474	34	63%	13.0%	10.6%	4.5%	11.9%	28.0%	135	120	95	239	69	1.7%	10	19	20	36	17	0.4	3	74%	2.5	10	1,280	
Pediatric EDs																										
2018 Results	105	87	51%	19.7%	10.1%	1.1%	8.7%	26.3%	146	133	114	272	87	1.6%	13	21	3	26	4	0.6	5	72%	3.4	21	1,663	
Adult EDs																										
2018 Results	206	166	77%	3.7%	26.5%	1.3%	24.8%	42.7%	243	205	130	380	155	4.1%	16	26	37	48	31	2.0	8	65%	2.6	47	1,314	
Freestanding EDs																										
2018 Results	264	41	56%	20.4%	5.9%	3.2%	5.4%	15.2%	98	92	64	253	99	1.1%	5	11	15	28	12	0.2	4	1%	1.8	13	1,365	
Specialty EDs																										
2018 Results	22	17	80%	15.0%	16.9%	8.2%	28.0%	43.7%	254	247	45	294	148	0.6%	2	7	37	51	22	1.2	4	21%	1.9	7	732	

Source: EDBA Annual Report to Members

Size Does Matter

- ED operations can – and should – be divided into 20,000 annual visit cohorts
- Acuity and confounders do change resource needs
- This reflects both patient needs and system dynamics
- LOS changes with size and acuity

What the ED Manager Can Do



ED Flow Options

- Small ED
 - Eliminate triage
- Medium ED
 - Pull-to-full, minor treatment area, expandable treatment areas, lab and imaging in ED, no boarding
- Large ED
 - Provider-in-triage, split flow

Small ED

- No triage
 - Direct bedding
 - Registration after evaluation and care initiation
 - Less acute patients need not stay long nor use many resources
 - Improves overall flow



Medium ED

- Pull – to – full
 - Eliminate triage
- Minor treatment area
- Lab and imaging in the ED
 - Point of care lab
- Modular system

Salt Mine outside Krakow, Poland



Larger ED

- Provider in triage
 - Immediate intake
 - Initiate treatment plan
 - Include the decision maker
- Split flow
 - Less acute will use less resources



Summary

- Studying ED operations is important
- Patient care, satisfaction, quality and safety are all improved by good ED operations
- The ED is a vital part of any health care system
- It is an honor and a privilege to be an emergency medicine specialist
 - Caring for the patient in their time of need



Lahaina, Maui, Hawaii