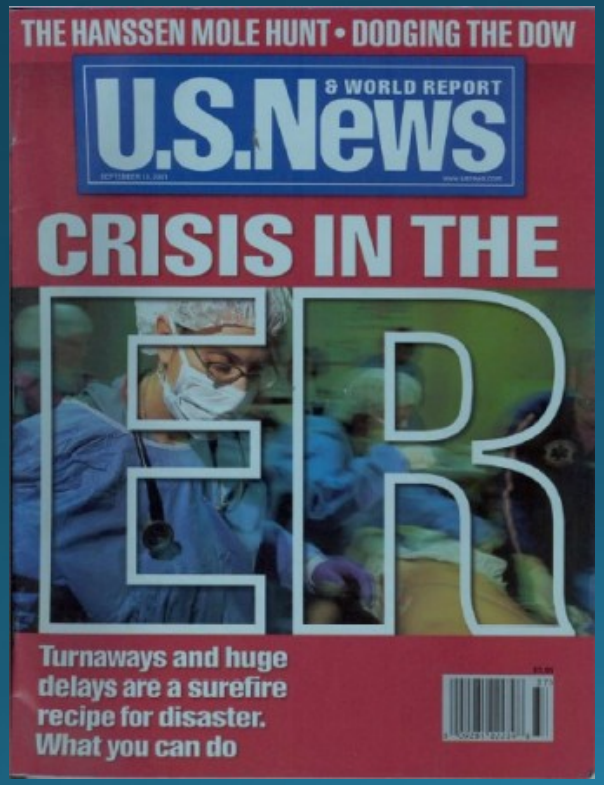
Acil Servis Kalabalığını Önleme Başarılı Yurtdışı Protokolleri



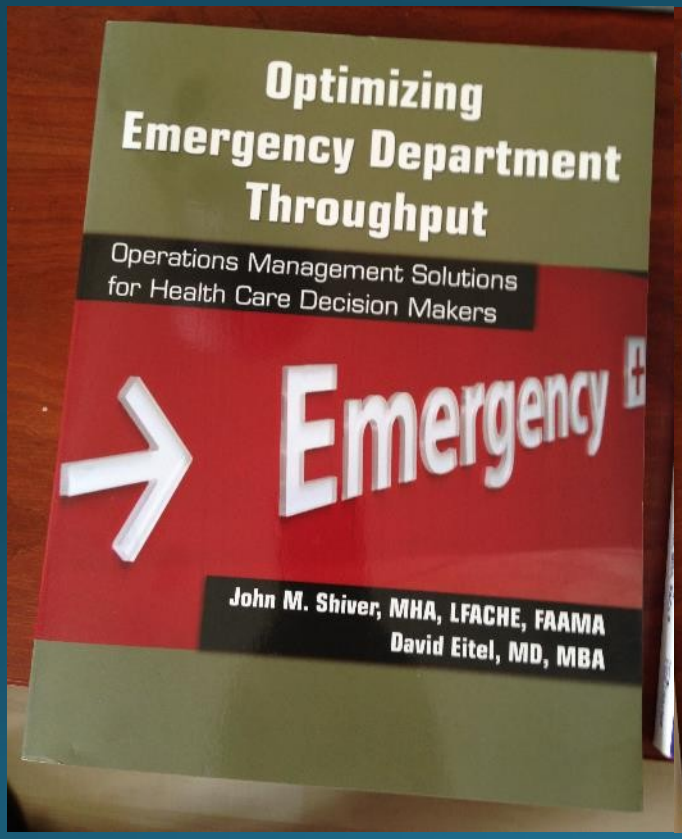
Yard. Doç. Dr. Haldun Akoğlu

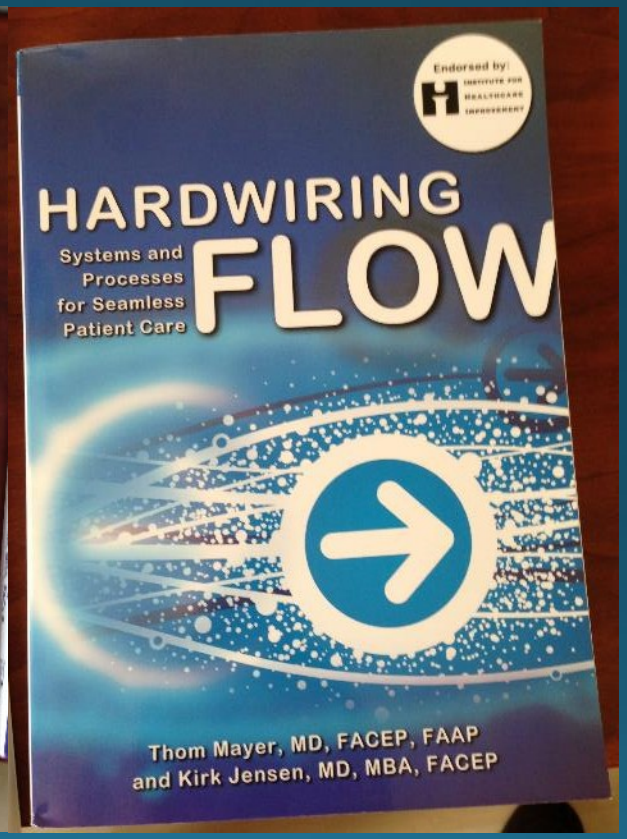
Marmara Üniversitesi

Plan

- Tanımlar ve Sorunun Tanımlanması
- Çözüm Seçenekleri
- Kanıtlanmış Çözüm
- Çözümün Kanıtları

Overcrowding = AS Kalabalığı





Overcrowding = AS Kalabalığı

- Acil hizmet ihtiyacının,
  - Acil Servis,
  - Hastane ya da
  - her ikisinin
- mevcut hasta bakım kaynaklarının üstüne çıkması

According to the definition proposed by the American College of Emergency Physicians, "[c]rowding occurs when the identified need for emergency services exceeds available resources for patient care in the ED, hospital or both."[16] Asplin

American College of Emergency Physicians. Crowding. Ann Emerg Med. 2006;47:585.

Sorun Tam Olarak Nerede?

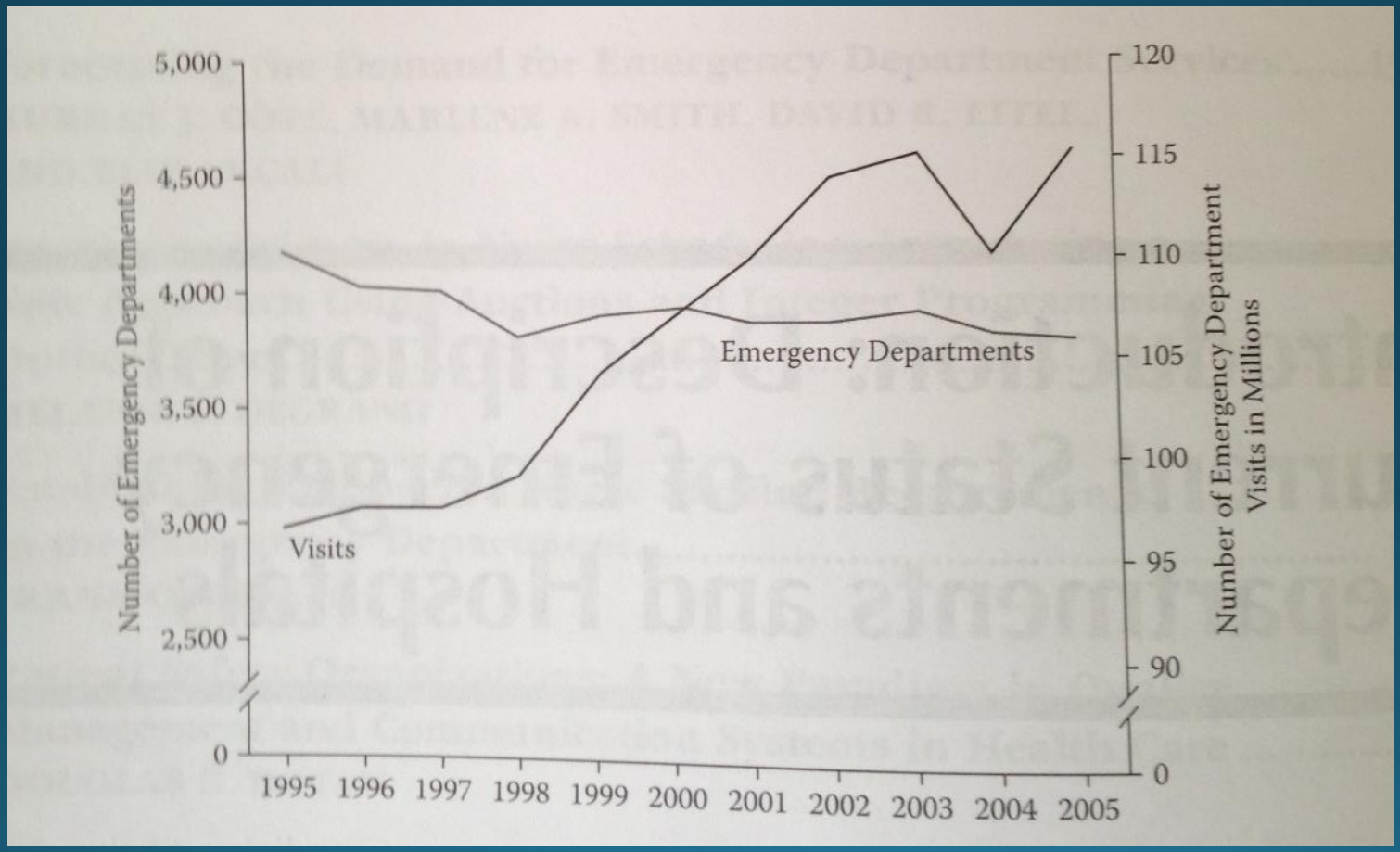
AS Kalabalığına etki eden faktörler: Asplin et al

- **Input (Girdiler) faktörleri**
  - Acil olmayan başvurular
  - Rutin ziyaretçiler (XXX Amca, YYY Teyze)
  - İnfluenza epidemileri
  - Güvencesi olmayan kişilerin başvuruları

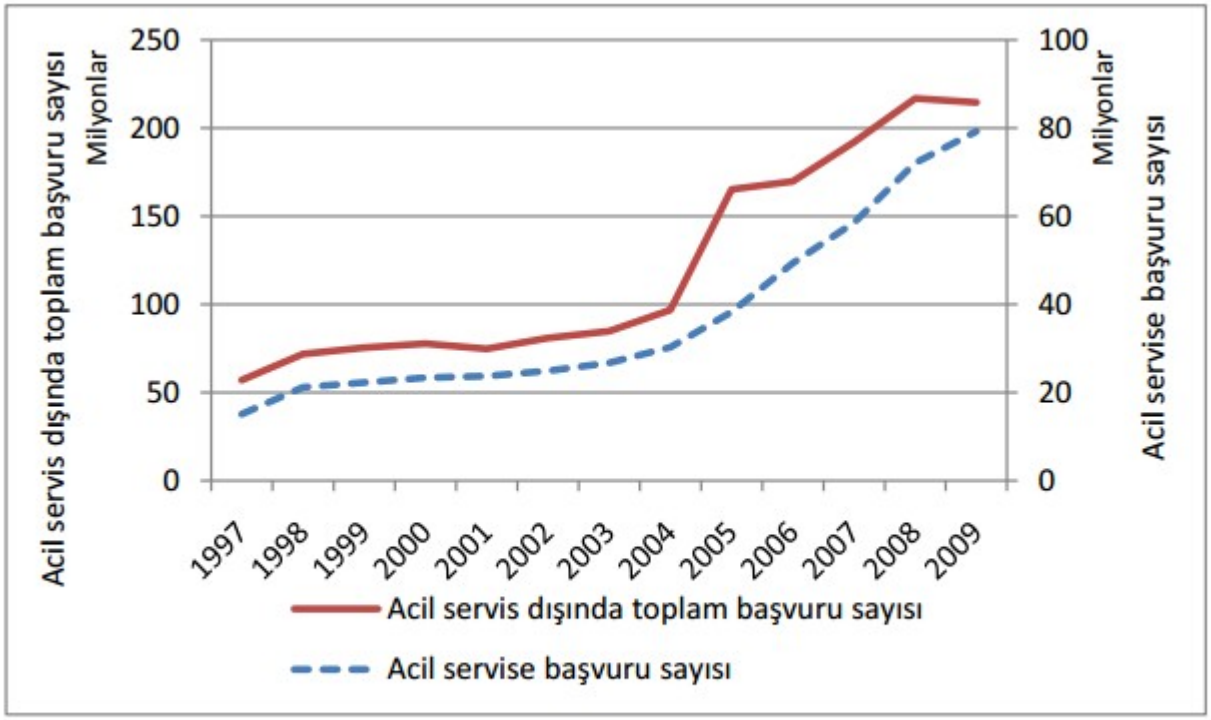
- **Throughput (Prosedür) faktörleri**
  - Yetersiz personel, hekim, hemşire
  - Destek hizmetler
  - Lab sonuç zamanı, isteme endikasyonları
  - Radyoloji bekleme zamanı, işlem süresi

Asplin BR, MagidDJ, Rhodes KV, Solberg LI, LurieN, Camargo CA Jr. A conceptual model of emergency department crowding. Ann EmergMed. 2003;42(2):173-80

ABD'de AS başvuruları 95-05 arası hızla artmış



ABD'yi 10 yıl geriden takip ediyoruz



Kaynak: Sağlık Bakanlığı istatistikleri

Hastaneye başvuruların dörtte biri acil servislere

Giriş: 15 Şubat 2013 11:22 1,072 Okunma Güncelleme: 15 Şubat 2013 11:21

Beğen 0 Tweetle 1

-A +A

Sağlık Bakanlığı Türkiye Kamu Hastaneleri Kurumu Başkanı Hasan Çağıl, acillere gereksiz başvuruların yüksekliğine dikkat çekti.

SB tarafından öngörülen sebep: Gereksiz başvuruların çokluğu

"Gereksiz başvuru çok"

Çağıl, vatandaşların acil servisleri çoğu zaman gereksiz meşgul ettiğini bildirerek, "Acillerden hizmet almaya gelenler arasında gün içinde polikliniklerde muayene olabilecek çok sayıda vatandaş bulunuyor. Biz bunları geri çeviremiyoruz. Acile kadar gelen vatandaşımıza hizmet etmek zorundayız ancak o vatandaşımız gerçekten durumu acil olanların işlemlerinin uzamasına ve gecikmelere sebep olabiliyor" dedi.

Türkiye Kamu Hastaneleri Kurumu Başkanı Hasan Çağıl, acil servislerin doğru bir şekilde kullanılması için vatandaşlardan sadece reçete yazdırmak ya da ertesi gün yaptırabilecekleri işlemler için acilleri değil poliklinikleri tercih etmelerini istedi.

"Acillerde sağlık personelinin ilgisizliğinden ziyade mekansal zorluklardan şikayetlerin dile getirildiği"nin belirtilmesi üzerine Çağıl, "Elbette. Çünkü gerçekten acillerdeki tüm sağlık personelimiz görev saatleri içinde yerinde, hastaların ihtiyaçlarını karşılamaya çalışıyor ama fiziki yetersizlikler ve iş yükünün çok artmış olması maalesef bazı istenmeyen olayların ortaya çıkmasına neden oluyor" diye konuştu.

Sağlık Bakanlığı hastanelerine günlük başvuruların yüzde 25'ini acil servis için başvuruların oluşturduğu bilgisini veren Çağıl, "Yüzde 25 acil vakaların değil acili kullananların oranıdır. Bu çok büyük bir rakam böyle bir acil oranı yok. Yaptığımız incelemelerde acili kullanması gerekenlerin oranının çok daha az olduğunu görüyoruz" ifadelerini kullandı. konuştu.

National Hospital Ambulatory Medical Care Survey: 2010 Outpatient Department Summary Tables

Table 1. Outpatient department visits, by selected hospital characteristics: United States, 2010

Hospital characteristics	Number of visits in thousands (standard error in thousands)		Percent distribution (standard error of percent)		Number of visits per 100 persons per year[1,2,3] (standard error of rate)	
All visits	100,742	(9,565)	100.0	...	33.2	(3.2)
Ownership						
Voluntary	73,291	(8,649)	72.8	(4.5)	24.1	(2.8)
Government	24,333	(4,871)	24.2	(4.3)	8.0	(1.6)
Proprietary	*3,118	(1,293)	*3.1	(1.3)	* 1.0	(0.4)
Geographic region						
South	29,064	(6,554)	28.8	(5.0)	53.2	(12.0)
Midwest	29,391	(4,952)	29.2	(4.2)	44.6	(7.5)
Northeast	30,292	(4,187)	30.1	(3.9)	27.0	(3.7)
West	11,995	(2,713)	11.9	(2.6)	16.9	(3.8)
Metropolitan status[4]						
MSA	84,346	(9,685)	83.7	(3.9)	32.8	(3.8)
Non-MSA	16,396	(3,894)	16.3	(3.9)	35.1	(8.3)
Teaching hospital status						
Teaching hospital	39,365	(6,927)	39.1	(5.1)	13.0	(2.3)
Non teaching hospital[5]	61,377	(6,945)	60.9	(5.1)	20.2	(2.3)
Clinic type[6]						
General medicine[7]	58,922	(6,342)	58.5	(3.1)	19.4	(2.1)
Surgery	16,015	(2,493)	15.9	(1.8)	5.3	(0.8)
Pediatrics	10,799	(1,947)	10.7	(1.6)	3.6	(0.6)
Obstetrics and gynecology	7,933	(1,428)	7.9	(1.2)	2.6	(0.5)
Other[8]	7,073	(1,015)	7.0	(0.9)	2.3	(0.3)

*Figure does not meet standards of reliability or precision.

...Category not applicable.

CDC Home

http://www.cdc.gov/nchs/fastats/hospital.htm

National Hospital Ambulatory Medical Care Survey: 2010 Emergency Department Summary Tables

Table 1. Emergency department visits, by selected hospital characteristics: United States, 2010

Selected hospital characteristic	Number of visits in thousands (standard error in thousands)		Percent distribution (standard error of percent)		Number of visits per 100 persons per year[1,2,3] (standard error of rate)	
All visits	129,843	(6,216)	100.0	...	42.8	(2.0)
Ownership						
Voluntary	94,673	(5,965)	72.9	(3.0)	31.2	(2.0)
Government	21,245	(3,291)	16.4	(2.5)	7.0	(1.1)
Proprietary	13,925	(2,933)	10.7	(2.2)	4.6	(1.0)
Metropolitan status[4]						
MSA	107,799	(6,000)	83.0	(2.3)	42.0	(2.3)
Non-MSA	22,044	(3,131)	17.0	(2.3)	47.1	(6.7)
Geographic region						
Northeast	24,306	(2,418)	18.7	(1.7)	44.5	(4.4)
Midwest	27,731	(2,544)	21.4	(1.8)	42.1	(3.9)
South	52,785	(4,420)	40.7	(2.5)	47.1	(3.9)
West	25,021	(2,737)	19.3	(1.9)	35.2	(3.8)
Teaching hospital						
Teaching hospital	21,030	(2,624)	16.2	(2.0)	6.9	(0.9)
Non-teaching hospital[5]	108,813	(6,216)	83.8	(2.0)	35.8	(2.0)
Trauma center						
Yes	56,746	(5,031)	43.7	(3.1)	18.7	(1.7)
No or blank	73,097	(5,232)	56.3	(3.1)	24.1	(1.7)
Season[6]						
Winter	30,931	(4,288)	23.8	(3.3)	10.2	(1.4)
Spring	33,426	(3,880)	25.7	(2.6)	11.0	(1.3)
Summer	34,737	(4,512)	26.8	(3.1)	11.4	(1.5)
Fall	30,749	(3,414)	23.7	(2.4)	10.1	(1.1)

...Category not applicable.

[1]Visit rates for region are based on the July 1, 2010, set of the estimates of the civilian noninstitutional population of the United States as developed by the Population Division, U.S. Census Bureau.

CDC Home

http://www.cdc.gov/nchs/fastats/hospital.htm

2010 CENSUS RESULTS

HIDE FULL SCREEN

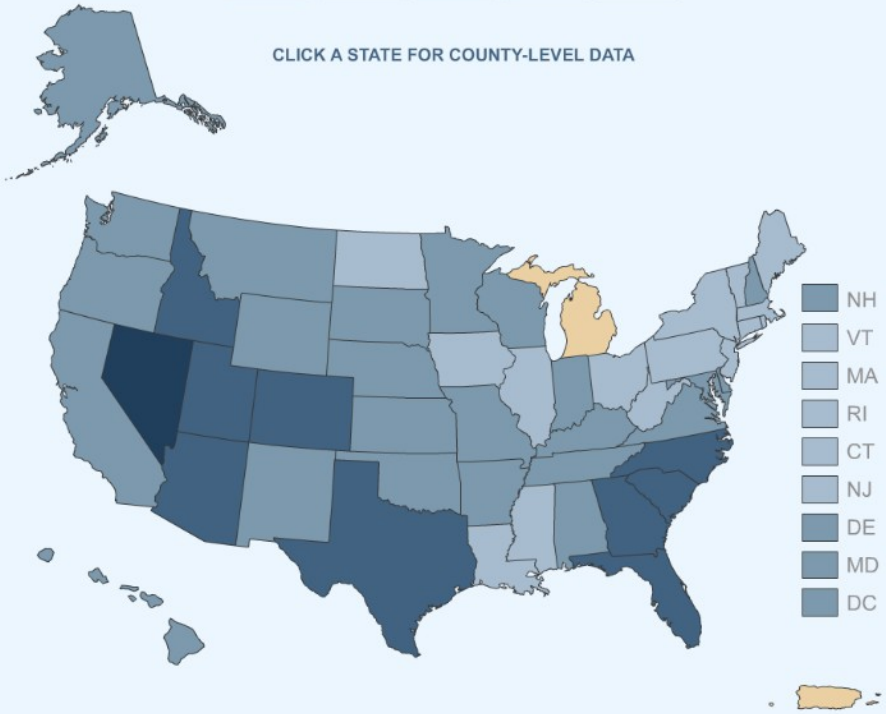
United States

NATIONAL POPULATION: 308,745,538

POPULATION CHANGE BY STATE: 2000-2010

LOSS | 0-5% | 5-15% | 15-25% | 25% +

CLICK A STATE FOR COUNTY-LEVEL DATA



NATIONAL POPULATION BY RACE UNITED STATES: 2010

PERCENT OF POPULATION	CHANGE 2000-2010
White alone 72.4%	5.7% ↑
Black or African American alone 12.6%	12.3% ↑
American Indian and Alaska Native alone 0.9%	18.4% ↑
Asian alone 4.8%	43.3% ↑
Native Hawaiian and Other Pacific Islander alone 0.2%	35.4% ↑
Some Other Race alone 6.2%	24.4% ↑
Two or More Races 2.9%	32.0% ↑

NATIONAL POPULATION BY HISPANIC OR LATINO ORIGIN UNITED STATES: 2010

PERCENT OF POPULATION	CHANGE 2000-2010
Hispanic or Latino 16.3%	43.0% ↑
Not Hispanic or Latino 83.7%	4.9% ↑

United States Census Bureau

ABD Poliklinik ve AS Başvuru Sayıları (2010)

Nüfus: 308.745.000

%42

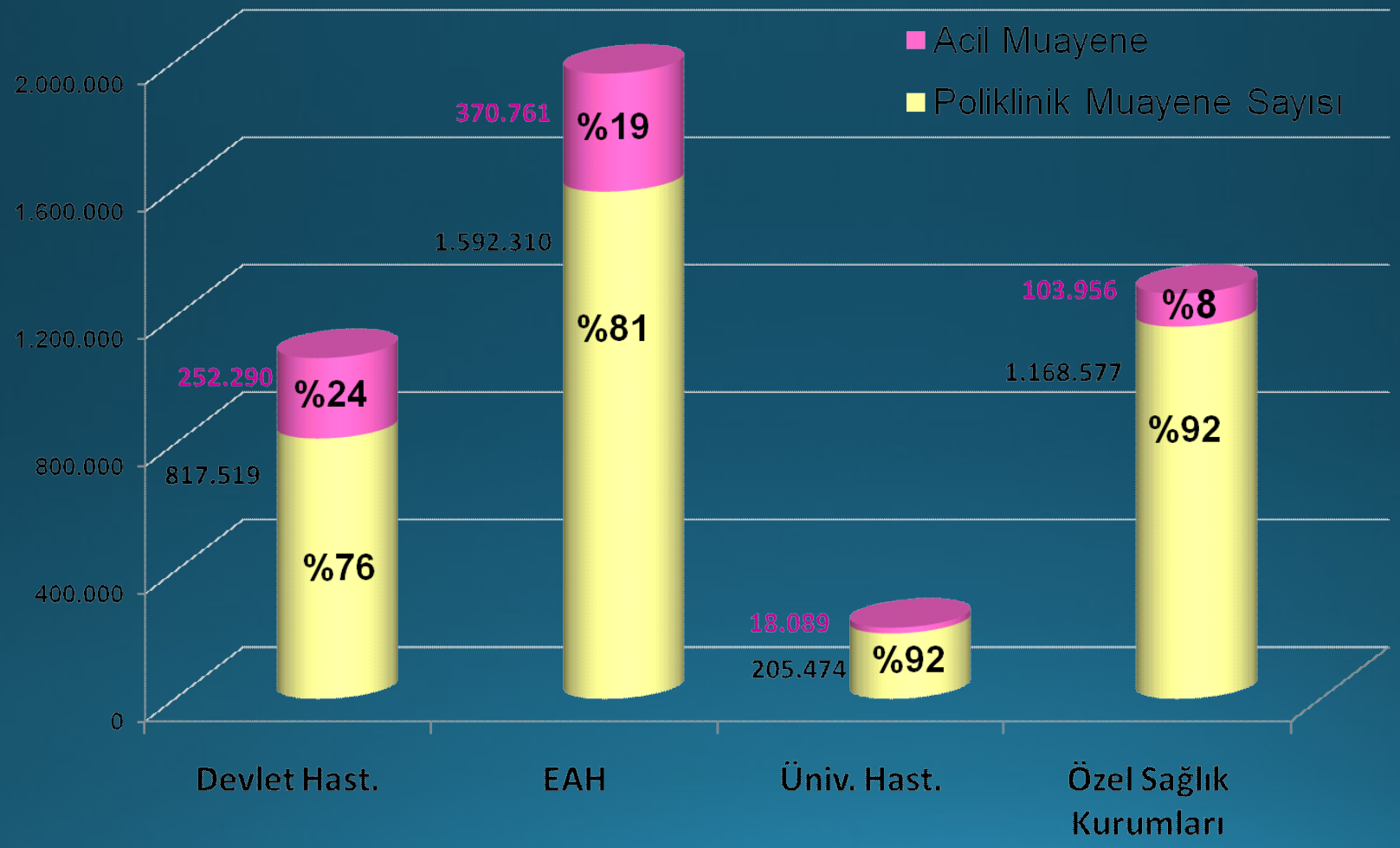
%131

%32

CDC Home

http://www.cdc.gov/nchs/fastats/hospital.htm

Hastanelerde Toplam Poliklinik ve Acile Müracaat Sayıları, 2010 MART, İstanbul



İstanbul Poliklinik ve AS Başvuru Sayıları (2010)

Nüfus: 13.255.000

%342

%67

%16

ABD Poliklinik ve AS Başvuru Sayıları (2010)

Nüfus: 308.745.000

%42

%131

%32

CDC Home

http://www.cdc.gov/nchs/fastats/hospital.htm

ABD – TR Karşılaştırma

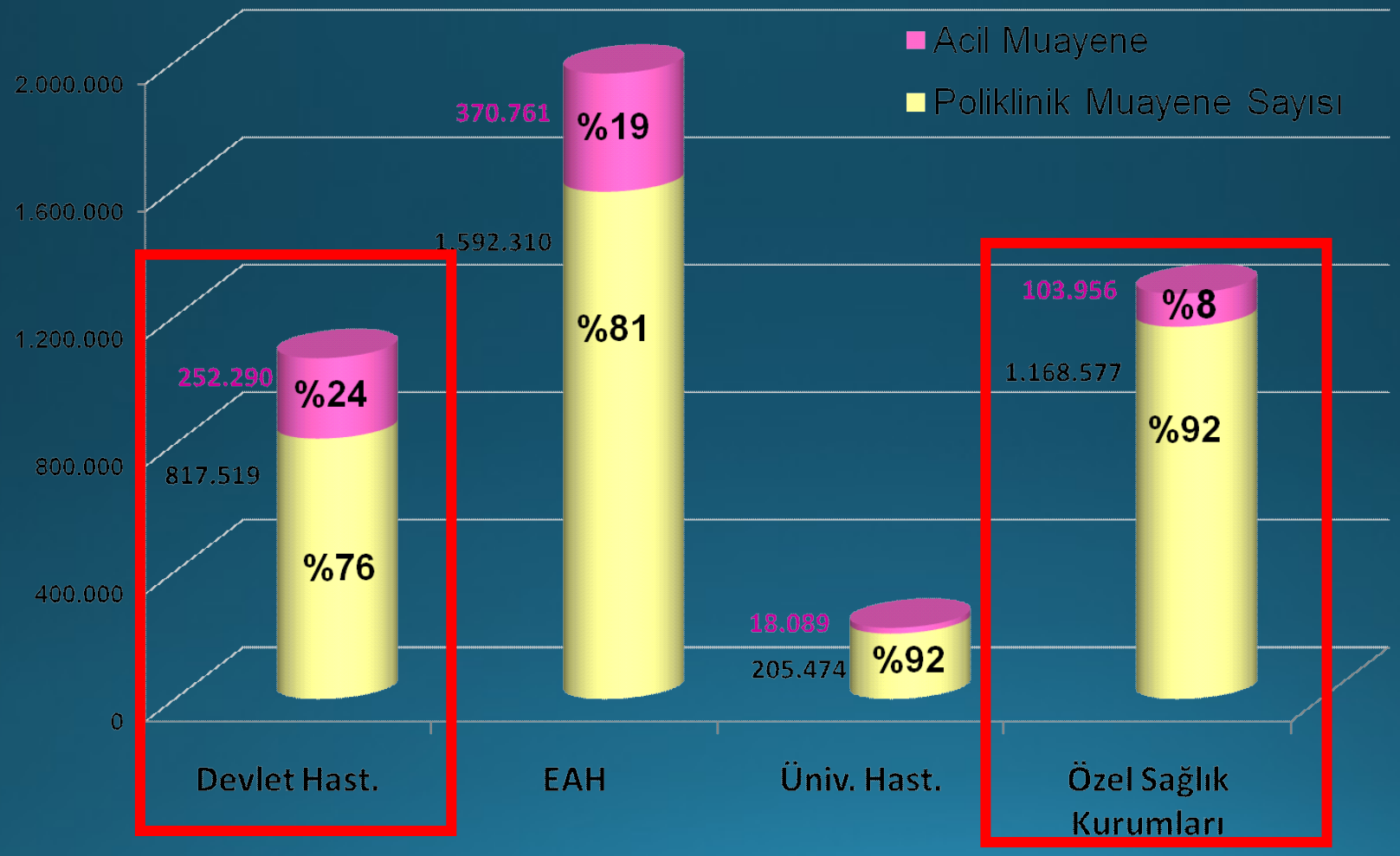
- Nüfusa göre acil ya da değil poliklinik hizmetlerini erişim oranımız ABD'den çok daha yüksek
- Ancak toplamın içinde Acil Servis Başvurularının oranı düşük
  - Poliklinik muayene sayılarının 2 kat abartılı olduğunu düşünsel bile oransal açıdan geride
- Önümüzdeki yıllarda Acil Servis başvurularının daha da artacağını öngörmek yanlış olmaz

SB Genel EAH Anadolu Yakası	Acil Muayene / Toplam Muayeneye Oran ı (%)
Haydarpaşa EAH	28.510 %24
Ümraniye EAH	39.441 (%32)
Fatih Sultan Mehmet EAH	16.380 (%27)
Göztepe EAH	29.393 (%18)
Kartal Lütfi Kırdar EAH	41.193 (%32)
Anadolu Yakası Toplamı	154.917 (%26)

SB GENEL EAH AVRUPA YAKASI	Acil Muayene / Toplam Muayeneye Oran ı (%)
BAKIRKÖY DR. SADİ KONUK EAH	45.039 (%27)
BAĞCILAR EAH	49.270 (%35)
İSTANBUL EAH	15.831 (%10)
HASEKİ EAH	17.166 (%15)
TAKSİM EAH	10.484 (%14)
OKMEYDANI EAH	50.953 (%28)
ŞİŞLİ ETFAL EAH	27.101 (%20)
Avrupa Yakası Toplamı	215.844 (%22)

%20-%30

Hastanelerde Toplam Poliklinik ve Acile Müracaat Sayıları, 2010 MART, İstanbul



Muayene ,Yatış, Müşahede Ve Ameliyat Oranları, Mart 2010

SB Genel EAH Anadolu Yakası	Acil Muayene / Toplam Muayeneye Oran ı (%)	Hekim Başına Günlük Müracaat	Cerrah Başına Günlük A,B,C Ameliyat Sayısı	Acilde Müşahede Oranı	Acilden Yatış Oranı	Mesai Sonrası Ameliyat Oranı (A,B,C Grubu)	2009 Yatak Doluluk Oranı (%)
Haydarpaşa EAH	28.510 %24	30	0,34	14	54,3	14	90
Ümraniye EAH	39.441 (%32)	48	0,83	11	30	50	88
Fatih Sultan Mehmet EAH	16.380 (%27)	36	0,52	5	10	11	54
Göztepe EAH	29.393 (%18)	38	0,69	11	45	15	73
Kartal Lütfi Kırdar EAH	41.193 (%32)	31	1,01	6	13,8	9	98
Anadolu Yakası Toplamı	154.917 (%26)	36	0,69	9	36	19	83

Muayene ,Yatış, Müşahede Ve Ameliyat Oranları, Mart 2010

SB GENEL EAH AVRUPA YAKASI	Acil Muayene / Toplam Muayeneye Oran ı (%)	Hekim Başına Günlük Müracaat	Cerrah Başına Günlük A,B,C Ameliyat Sayısı	Acilde Müşahede Oranı (%)	Mart 2010 Acilden Yatış Oranı	Mesai Sonrası Ameliyat Oranı (A,B,C Grubu)	2009 Yatak Doluluk Oranı (%)
BAKIRKÖY DR. SADİ KONUK EAH	45.039 (%27)	50	1,09	7	44	22	85
BAĞCILAR EAH	49.270 (%35)	55	0,76	10	8,6	0	48
İSTANBUL EAH	15.831 (%10)	47	0,79	7	30	30	90
HASEKİ EAH	17.166 (%15)	31	0,75	1,3	16	8	90
TAKSİM EAH	10.484 (%14)	44	0,55	0	32	6	72
OKMEYDANI EAH	50.953 (%28)	41	0,76	16	30	9	73
ŞİŞLİ ETFAL EAH	27.101 (%20)	31	0,89	9	28	11	77
Avrupa Yakası Toplamı	215.844 (%22)	41	0,87	9	27	10	76

Sayılar ne söylüyor

- Acil servisten yatış oranları yüksek hastanelerin doluluk oranları düşük
- Acil servisten yatış oranları düşük hastanelerin doluluk oranları yüksek
- Binlerce hasta yatamadığı için acil servisi işgal ediyor

AS Kalabalığına etki eden faktörler

- **Input (Girdiler) faktörleri**
  - Acil olmayan başvurular
  - Rutin ziyaretçiler (XXX Amca, YYY Teyze)
  - İnfluenza epidemileri
  - Güvencesi olmayan kişilerin başvuruları
- **Throughput (Prosedür) faktörleri**
  - Yetersiz personel, hekim, hemşire
  - Destek hizmetler
  - Lab/Radyoloji sonuç zamanı, isteme endikasyonları

Sprivulis P, Grainger S, Nagree Y. Ambulance diversion is not associated with low acuity patients attending Perth metropolitan emergence departments. Emerg Med Australas. 2005;17:11-15.

Hunt KA, Weber EJ, Showstack JA, et al. Characteristics of frequent users of emergency departments. Ann Emerg Med. 2006;48:1-8.

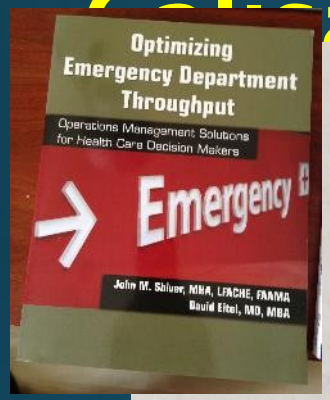
Weber EJ, Showstack JA, Hunt KA, et al. Are the uninsured responsible for the increase in emergency department visits in the United States? Ann Emerg Med. 2008;52:108-115.

Lambe S, Washington DL, Fink A, et al. Waiting times in California's emergency departments. Ann Emerg Med. 2003;41:35-44.

Schull MJ, Lazier K, Vermeulen M, et al. Emergency department contributors to ambulance diversion: a quantitative analysis. Ann Emerg Med. 2003;41:467-476

Asplin BR, Magid DJ, Rhodes KV, Solberg LI, LurieN, Camargo CA Jr. A conceptual model of emergency department crowding. Ann EmergMed. 2003;42(2):173-80.

Throughput (Prosedür) faktörleri
Çalışan saatlerinin



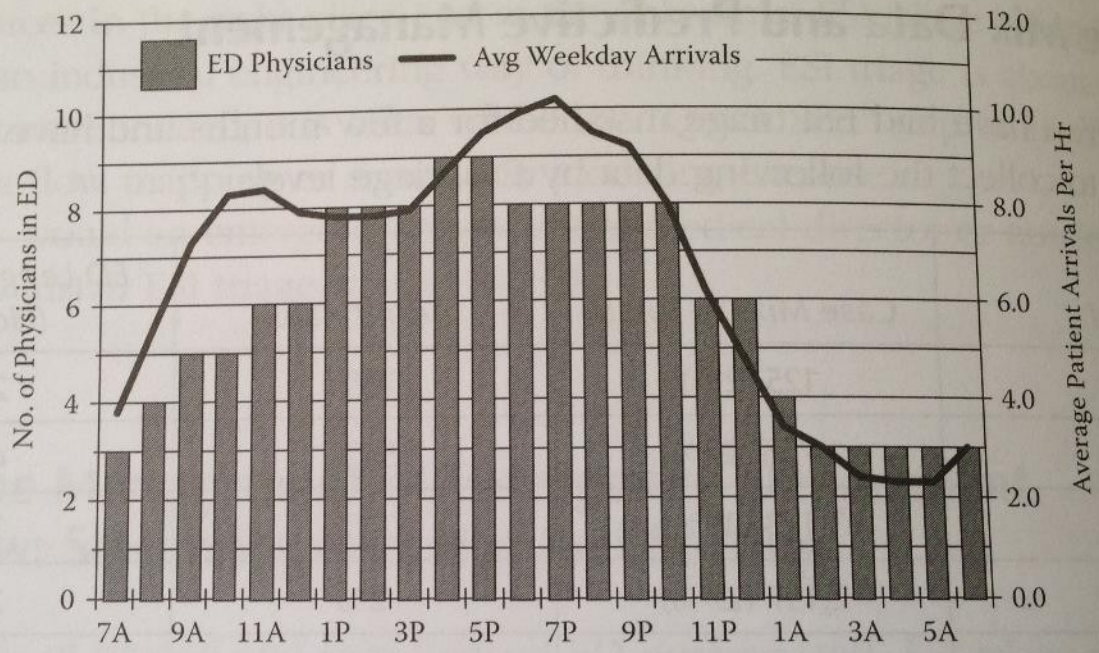
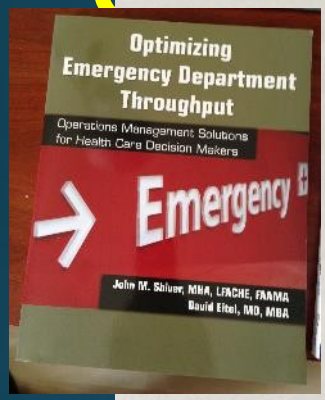


Figure 1.1 York Hospital emergency department physician staffing versus average arrivals on a typical weekday.

Throughput (Prosedür) faktörleri



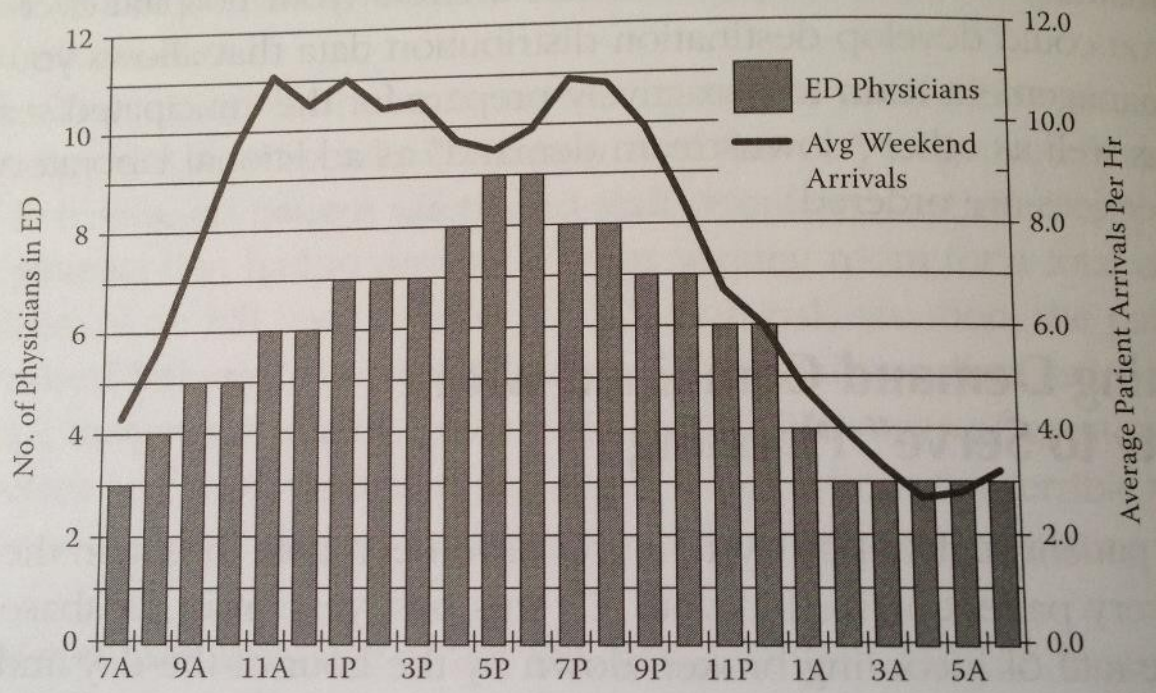
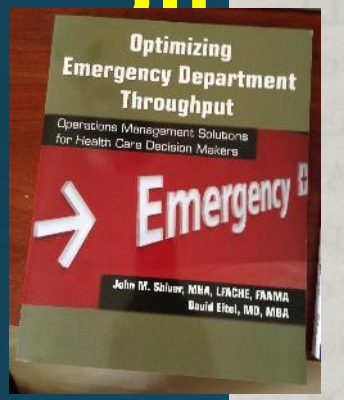


Figure 1.2 York Hospital emergency department physician staffing versus average arrivals on a typical weekend.

Throughput (Prosedür) faktörleri
Sıra Bekleme Teorisi



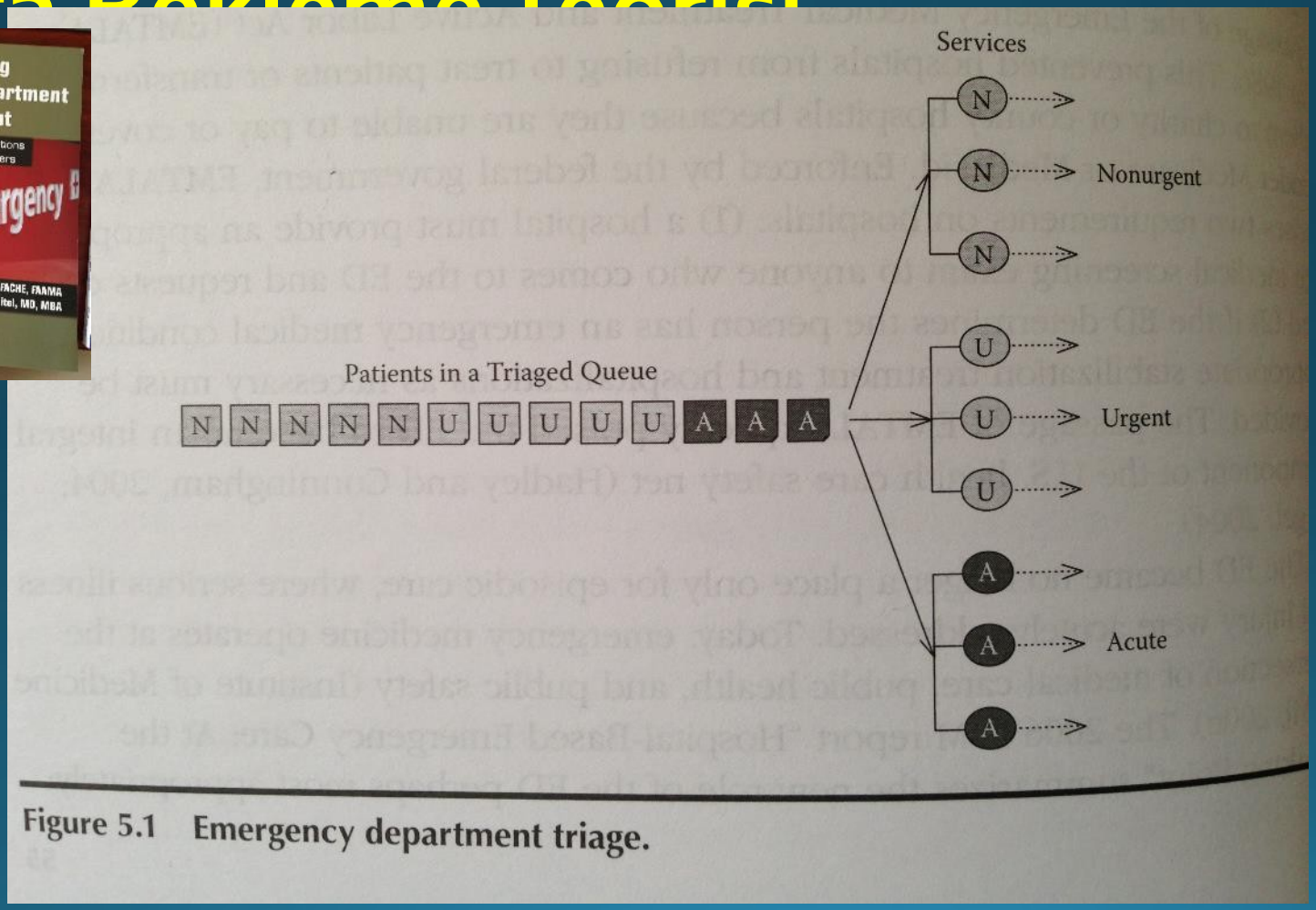
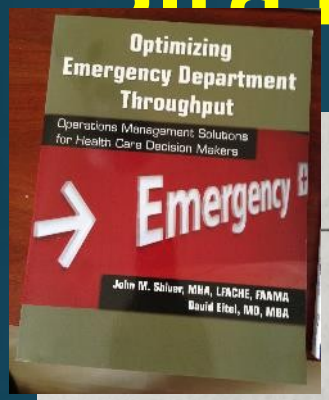


Figure 5.1 Emergency department triage.

Throughput (Prosedür) faktörleri
Sıra Bekleme Teorisi



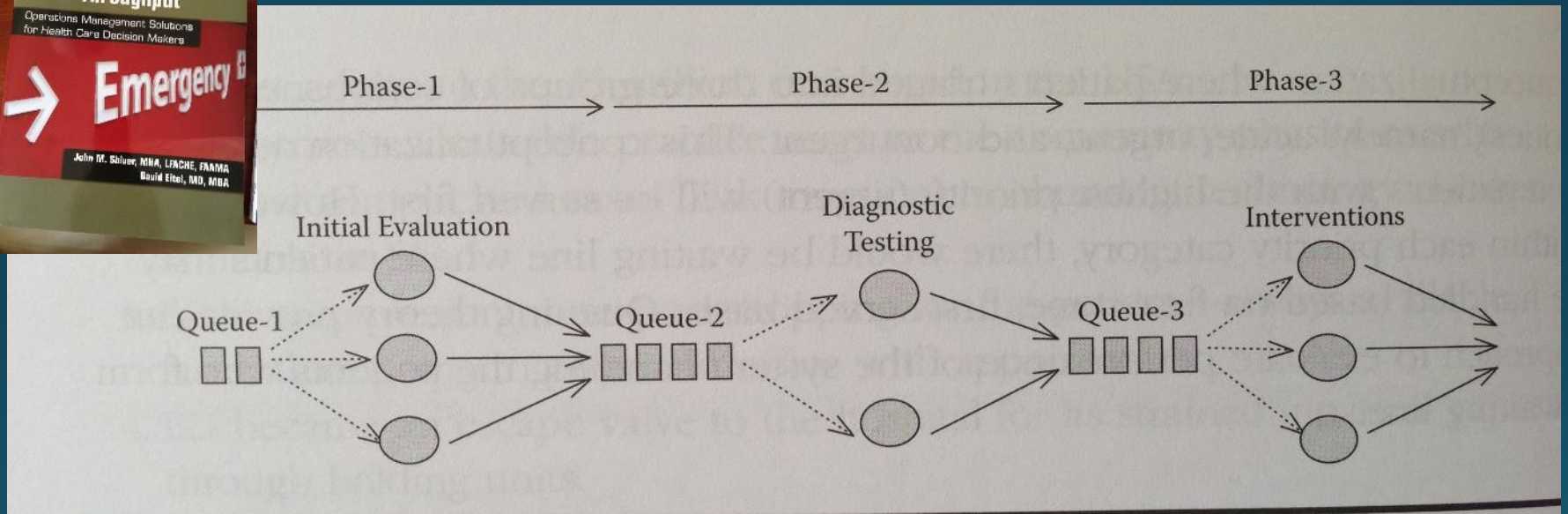
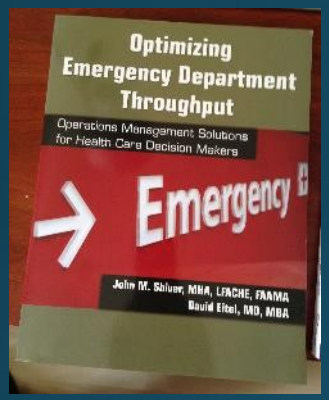
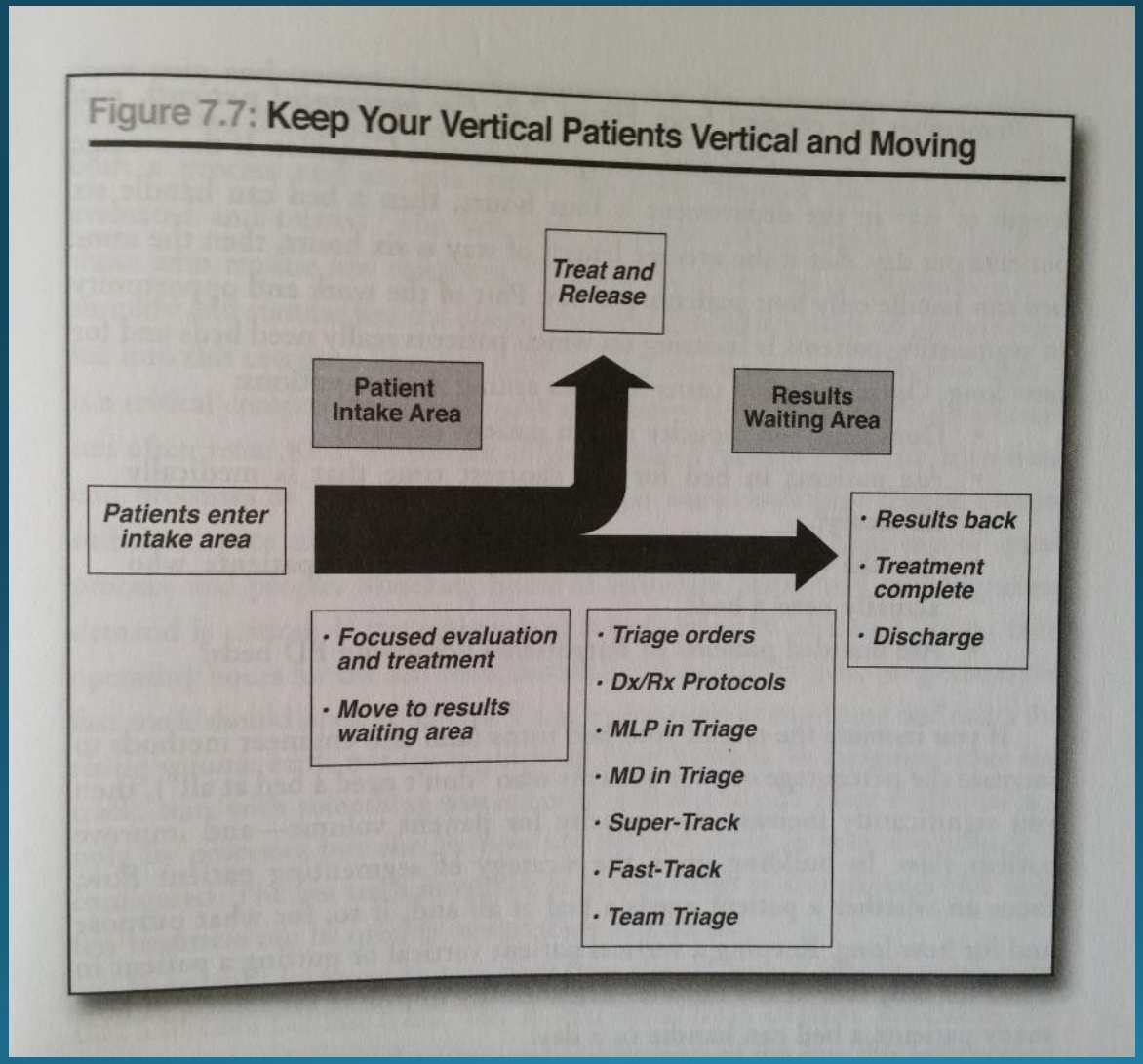


Figure 5.2 Multiline, multiphase queues in an emergency department.

Throughput (Prosedür) faktörleri
Sıra Bekleme Teorisi –Ayaktaki hasta ayakta kalsın





AS Kalabalığına etki eden faktörler

- **Input (Girdiler) faktörleri**
  - Acil olmayan başvurular
  - Rutin ziyaretçiler (XXX Amca, YYY Teyze)
  - İnfluenza epidemileri
  - Güvencesi olmayan kişilerin başvuruları

- **Throughput (Prosedür) faktörleri**
  - Yetersiz personel, hekim, hemşire
  - Destek hizmetler
  - Lab/Radyoloji sonuç zamanı, isteme
  - Endikasyonlar

Asplin BR, MagidDJ, Rhodes KV, Solberg LI, LurieN, Camargo CA Jr. A conceptual model of emergency department crowding. Ann EmergMed. 2003;42(2):173-80.

Arthur Kellermann

CARDIOLOGY/EDITORIAL

Waiting Room Medicine: Has It Really Come to This?

Arthur L. Kellermann, MD, MPH

From the RAND Corporation, Arlington, VA, and the Department of Emergency Medicine, Emory University School of Medicine, Atlanta, GA.

0196-0644/$-see front matter
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doi:10.1016/j.annemergmed.2010.05.038

CARDIOLOGY/ORIGINAL RESEARCH

Safety of Assessment of Patients With Potential Ischemic Chest Pain in an Emergency Department Waiting Room: A Prospective Comparative Cohort Study

Frank Xavier Scheuermeyer, MD, MHSc, Jim Christenson, MD, Grant Innes, MD, Barb Boychuk, RN, Eugenia Yu, MSc, Eric Grafstein, MD

Kendi Tecrübesi…

- Grady Memorial, Atlanta,
- Emory Acil Tıp ihtisas programının ana hastanesi
- Atlanta'nın tek devlet hastanesi ve tek 1. Düzey travma merkezi
- The Joint Commission (TJC) müfettişi sürpriz bir ziyaret yapar
- Tüm koridorlar ve muayene odaları yatış verilmiş ama bekleyen hastalarla doludur
- Hastanede yatak yoktur (her zaman) ve Acil Servis yılda 200.000 hasta bakmaktadır
- Bekleme odası hasta sayısı ortalama 15-50 arasında ve kabul edilebilir düzeydedir

Kendi Tecrübesi…

- Müfettiş incelemesini yapar
- Şaşırdığı ve kabul edilemez bulduğu sorun hastaların muhtemel tıbbi bakım eksiklikleri değil, hekimler hastalarla konuşurken başka hastaların ve ziyaretçilerin konuşulanları duyması ile hasta mahremiyetidir!!
- Müfettiş Grady, acil olarak bu durum düzeltilmezse hastanenin akreditasyonunun ve ihtisas verme yetkisinin iptal edileceğini bildirir

Kendi Tecrübesi…

- CEO’nun kararı çok net hızlıdır:
- Tüm koridor ve boşluklardaki sedyeler kaldırılır.
- Koridorlarda hasta takibi yapılmasını yasaklayan bir moratoryum yayınlanır.
- Ancak, yatamayan hastalar yine yatırılmaz, resüsitasyon odaları ve muayene alanlarında hastalar kalmaya devam eder.
- Koridorlarda yatan hastalar artık bekleme odalarında kalmaya ve muayene olamamaya başlarlar
- Bekleme odasında bekleyen hasta sayısı 200-300 civarına fırlar
- Bekleme sırası ve salonlarında senkop, kanama,

Kendi Tecrübesi…

- Sorunu çözmek acil tıp hekimlerine kalır
- Bekleme salonunda sırayla ‘Fast Track’ yani bir ‘İlk Muayene’ yapmaya ve hasta seçmeye başlarlar
- Muayeneler bekleme salonunda yapılmaya başlanır
- Hasta mahremiyeti yine yoktur
- CEO attığı adımın başarısıyla müfettişi tekrar çağırır, akreditasyon onaylanır, müfettiş gider…
- Birkaç hafta içerisinde tüm sedyeler yavaş yavaş geri döner
- Çünkü hastanede bu kadar sedyeyi saklayacak yer bulunamamıştır!

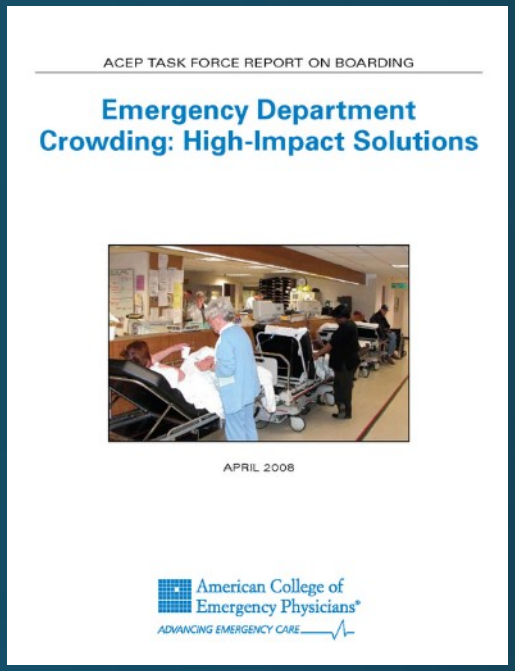
ACEP Board of Directors, Ocak 2011 Yatamamış Hasta en önemli Kalabalık Sebebi

- In order for emergency departments to continue to provide quality patient care and access to that care, ACEP believes a "boarded patient" is defined as a patient who remains in the emergency department after the patient has been admitted to the facility, but has not been transferred to an inpatient unit.

Çözüm Önerileri

Acil servis kalabalığı ≠ İş Yoğunluğu

- Hepimiz hasta bakmaya acil servislere geliyoruz
- Boğaz ağrısı da, fraktür çıkabilecek ayak bileği burkulması da bizim hastamız
- Bu hastalar muayene olmaları için uygun bir süre bekleyip, tetkikleri hızlı tamamlanıp acilden ayrılabiliyorsa bu iş yoğunluğu'dur
- İş gereğinden fazla yoğun
hekim, triyaj, belli saatlerd
sayısının arttırılması gibi e
kaynaklarla çözülebilir


ACEP TASK FORCE REPORT ON BOARDING

Emergency Department Crowding: High-Impact Solutions

APRIL 2008

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ACEP TASK FORCE REPORT ON BOARDING

Emergency Department Crowding: High-Impact Solutions

SB tarafından önerilen çözüm: Daha büyük hastaneler

Şehir hastaneleri

Çağıl, çok sayıda ilde kurulacak şehir hastanelerinin hem acil hem de diğer sağlık hizmetlerinin sunumunda büyük rahatlama sağlayacağını, daha geniş ve ferah mekanlar oluşturulacağını söyledi.

Yirminin üstünde proje olduğunu kaydeden Çağıl, şehir hastaneleri dışında, Sağlık Bakanlığı'nın kendi imkanlarıyla inşa edilecek yeni hastaneler ve hizmet alanlarının genişletilmesiyle mekansal sorunların çözümlenmeye çalışıldığını belirtti.

Peki gerçekten çözüm bu mu?

REVIEW ARTICLE

Ten Solutions for Emergency Department Crowding

Robert W. Derlet, MD
John R. Richards, MD

University of California, Davis School of Medicine, Department of Emergency Medicine

Submission history: Submitted June 4, 2007; Accepted October 29, 2007.
Reprints available through open access at www.westjem.org
[*West*JEM. 2008;9:24-27.]

1. Hastane kapasitesinin arttırılması
2. Hasta: hemşire sayısı gibi sabit kuralların gevşetilmesi
3. Sadece acil hastalara hizmet verilmesi
4. Sigortası olmayanlar için aile hekimliği sisteminin de çalışır hale getirilmesi
5. Yatış verilen hastaların acil serviste bekletilmemesi
6. Aşırı görüntülemeyi engellemek için kılavuzlara bağlı kalınması
7. Yatış paternlerinin değiştirilmesi (YBÜ yerine göğüs ağrısı

Emergency Department Overcrowding in Florida, New York, and Texas

ROBERT W. DERLET, MD, and JOHN R. RICHARDS, MD, Sacramento, Calif

Table 2. Causes of Overcrowding in Emergency Departments (EDs)

	Florida	New York	Texas
Hospital bed shortage	4.4 ± 1.1	4.5 ± 1.1	4.0 ± 1.2
Increased severity of patient's condition	4.2 ± 0.8	4.1 ± 1.0	4.1 ± 1.0
Increased ED volume	4.6 ± 0.7	3.3 ± 1.1	4.2 ± 1.0
ED space limitations	3.7 ± 1.1	3.1 ± 1.2	4.0 ± 1.2
Nursing shortage	3.7 ± 1.0	3.6 ± 1.2	3.3 ± 1.4
Radiology delays	3.9 ± 1.2	3.2 ± 1.3	3.6 ± 1.4
Consultation delays	3.4 ± 1.2	3.3 ± 1.2	2.8 ± 1.2

TABLE 3. Poor Outcomes From Overcrowding

Delayed therapy for acute myocardial infarction
Delayed therapy for thrombotic cerebrovascular accident
Sepsis in patients with appendicitis
Delayed diagnosis of sepsis in pediatric patient
Delayed treatment of intracranial hemorrhage
Death from delay in evaluation of incarcerated hernia
Intubation and prolonged intensive care unit stay in delayed asthma treatment

Systematic Review of Emergency Department Crowding: Causes, Effects, and Solutions

Nathan R. Hoot, PhD
Dominik Aronsky, MD, PhD

From the Department of Biomedical Informatics (Hoot, Aronsky) and the Department of Emergency Medicine (Aronsky), Vanderbilt University Medical Center, Nashville, TN.

Table 2. Commonly studied causes of ED crowding.

Cause of Crowding	References
Input factors	
Nonurgent visits	
Frequent-flyer patients	
Influenza season	
Throughput factors	
Inadequate staffing	
Output factors	
Inpatient boarding	
Hospital bed shortages	

Table 3. Commonly studied effects of ED crowding.

Effect of Crowding	References
Adverse outcomes	
Patient mortality	
Reduced quality	
Transport delays	
Treatment delays	
Impaired access	
Ambulance diversion	
Patient elopement	
Provider losses	
Financial effect	

Table 4. Commonly studied solutions of ED crowding.

Solution of Crowding	References
Increased resources	
Additional personnel	74-76
Observation units	77-80
Hospital bed access	81,82
Demand management	
Nonurgent referrals	19,85-87
Ambulance diversion	88-92
Destination control	93,94
Operations research	
Crowding measures	98-105
Queuing theory	106,107

HEALTH POLICY AND CLINICAL PRACTICE/REVIEW ARTICLE

Systematic Review of Emergency Department Crowding: Causes, Effects, and Solutions

Nathan R. Hoot, PhD
Dominik Aronsky, MD, PhD

From the Department of Biomedical Informatics (Hoot, Aronsky) and the Department of Emergency Medicine (Aronsky), Vanderbilt University Medical Center, Nashville, TN.

Solution of Crowding	
Increased resources	
Additional personnel	Hemşire, yeşil alana hekim, uzman nöbeti, bölümler
Observation units	Göğüs ağrısı, ara YBÜ, ortak gözlem
Hospital bed access	Serbest yatış, süpervisor-şef kontrolü, yatış engelleme
Demand management	
Nonurgent referrals	112 merkez
Ambulance diversion	112 merkez
Destination control	112 merkez
Operations research	
Crowding measures	Bekleme salonu, numaratör, tam vital triyaj
Queuing theory	Bekleme sıralarını dağıtma, farklı alanlar açma, numaratör

HEALTH POLICY AND CLINICAL PRACTICE/REVIEW ARTICLE

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Solution of Crowding	Lütfi Kırdar EAH	Zonguldak DH	Marmara Üniv
	300.000/yıl	150.000/yıl	300.000/yıl
Increased resources			
Additional personnel	+	+	+
Observation units	+	-/+	+
Hospital bed access	-/+	+	----/+
Demand management			
Nonurgent referrals	-	-	-
Ambulance diversion	-/+	+	-/+
Destination control	-/+	-/+	-/+
Operations research			
Crowding measures	+	-	+
Queuing theory	+	-	+

Yatamayan hastaların zararı

- Kanıtlar ve yayınlar çok net:
  - Hastane kalabalığı acil servis kalabalığının en önemli sebebi ve hastalara zarar veriyor
    - *Bernstein SL, Aronsky D, Duseja R, et al. The association between ED crowding and patient-oriented outcomes. Acad Emerg Med. 2009;16:1-10.*
- Avustralya , Kanada ve ABD kaynaklı yayınlara göre kalabalık:
  - Bakıma erişimi kısıtlıyor
  - Zamanında ağrı kesici,
  - Antibiyotik,
  - ve trombolitik verilmesini engelliyor
- Yatamayan hastalarla acil servisi şişirmek aşağıdaki

Stony Brook Medicine

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- Stony Brook University Physicians
- Stony Brook Long Island Children's Hospital
- Long Island State Veterans Home
- Health Sciences Center
- School of Dental Medicine
- School of Health Technology and Management
- School of Nursing
- School of Social Welfare

Peter Viccellio, M.D.

Clinical Professor and Vice Chair
Clinical Director, Emergency Department
Department of Emergency Medicine

M.D.:	Harvard University
Internship/Residency:	NYU Bellevue, Internal Medicine
Boards:	Internal Medicine Emergency Medicine
Email Address:	Asa.Viccellio@stonybrook.edu

Dr. Viccellio joined the faculty at Stony Brook in 1988. Under his leadership, Emergency Medicine became a Department in the Medical School. He also served as the department's first residency director. He was appointed Vice Chairman and later Clinical Director of the Emergency Department. Known for his engaging teaching style, Dr. Viccellio received the Aesculapius Award for Excellence in Teaching from the SUNY School of Medicine in 2003.

Dr. Viccellio has instituted a full capacity protocol at Stony Brook University Hospital which has been emulated nationwide, with data demonstrating impact on patient flow, patient safety, length of stay and patient satisfaction. For his efforts, Dr. Viccellio has been awarded the 2005 National ACEP Colin C. Rorrie, Jr. Award for Excellence in Health Policy.

Dr. Viccellio is the editor of Handbook of Toxicology (Lippincott & Raven). His areas of research include emergency department and hospital overcrowding, patient safety, medical errors, head and cervical spine injuries, and residency education.

Dr. Viccellio has served in numerous leadership positions at the state and national levels of the American College of Emergency Physicians and the Society for Academic Emergency Medicine. He is a frequent lecturer on emergency medicine topics at the local, state, national, international conferences.

ccellio

VIEWPOINT-VICCELLIO

'I'm as Mad as Hell, and I'm Not Going to Take This Anymore!'

By Peter Viccellio, MD

Emergency departments are in a crisis! says the Instit
of emergency medicine. How's this for proof? "A su
showed 22 of 57 voluntary and municipal hospitals to
with the remainder at greater than 90 percent occupar
compelled to remain in the emergency department ov
inpatient beds."

Wow! We have a crisis! Problem is, I wrote tl
newsletter in 1987. In 1989, the New York Post ran ar
Hospital Bed," and considered the system doomed.

At www.hospitalovercrowding.com, you can
back to 1987, all declaring the system to be defunct.

This long history would suggest that the strate
something" isn't exactly, well, working. Another "wh
IOM report, needs a companion. What we need is a "
need a road map. To construct the proper roadmap, w
the current practice of emergency medicine, which hi
underfunded, underresourced, unwelcome stepchild o
epicenter of medicine, at least in the view of the a thi
by to say hello this year. If "the emergency departme
look like? Look at what needs to be accomplished, ar
short, we need to replace our now chronic sense of ur
direction. To fix a system, one should first decide wh

Interestingly, where we've failed to fill this va
great vigor. The neurologists, the cardiologists, the in
traumatologists, and the pulmonologists have no diffi
patients. Get the CT and have it read in 20 minutes. G
EKG in 10 minutes. Treat that pneumonia within four
three hours. And there you have it. That's what an em
like. It's not the structure. It's the function.

They make demands, not just on us, but on th
have to come in during off hours far more than they u
efforts (and I commend them for their good spirit in d
skipped the "why we can't" part. They created a road
what they need or what we need. They haven't said, '
Go figure it out, but do it. Success is the only option.'

How do we respond? Debate the need for thre
cultures, the influence of the pharmaceutical industry
64). We debate the leaves and get lost in the forest. T
people sit in the waiting room for hours on end. It's d
member working at absolute maximum speed to bare

ACEP TASK FORCE REPORT ON BOARDING

Emergency Department Crowding: High-Impact Solutions

APRIL 2008

American College of Emergency Physicians®
ADVANCING EMERGENCY CARE

Customer Satisfaction Versus Patient Safety: Have We LostOu

Peter Viccellio, MD From the Department of Emergency Medicine, School of Medicine
IYat Stony Brook, Stony Brook, NY. [from Ann Emerg Med. 2008

e of the causes and consequences of boarding of admitted
ivocally the dangers the patient may face when entering a c
ent (ED).[1] Even the demonstration of increased mortality ra
rding[2,3] has not compelled the hospital industry as a whole
nd procedures to ameliorate crowding. However, a Trojan
cores, might provide a call to action where literature of gre
d. It is in this spirit that Garson et al[4] examine patient pref
hen hospitals are at full capacity.

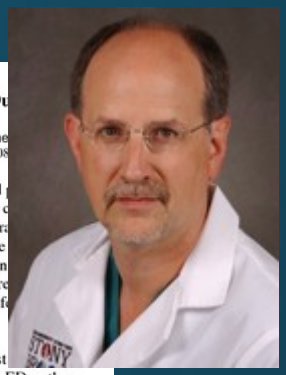
e study are crucial to understanding the seemingly modest
ients included in the survey were boarded in rooms in the ED, rather
Second, no patients at this institution are actually boarded in
t units. Thus, few patients in the survey had firsthand experience of
g" to make their choice more meaningful. Despite this, a modest
ent boarding still existed. In this study, 36% of patients had no
e expressing a preference favored inpatient versus ED hallway
rence split of 60%/40%.

ions being asked? The patients received no context for the question.
avily influenced by the presence or absence of contextual
tance, the question "Would you object to a 5% tax increase?" might
esponse than "Would you object to a 5% tax increase if, in return,
l a free education, free health care, a free retirement fund, a free
?"

patient preference is quite different.[5] Our institution has experience
ousand patients on inpatient units in the hallway. When we started
coordinator queried patients as to their preferred location for
were placed on the inpatient unit. This differs from Garson et al[4] in
firsthand experience with being boarded in both areas, and ours
ing preference for boarding in the inpatient unit. Our program also
patient satisfaction scores (for which we received a national award).

ell-equipped ED can be brought to its knees with high capacity and
hence, admitted boarders). This places the well-being of our patients
at may be "out of sight" of many elsewhere in the hospital, which is
to reducing or eliminating the practice of boarding admitted patients

, imagine what the results of the survey might have been had the
and context been used:



http://www.hospitalovercrowding.com/

Acil servis yoğunluğunu tartışırken yapılan en büyük hata şu sebepleri öne sürme

Neden ???

- Fakirlerin, evsizlerin, bağımlıların başvuruları
- Sigortası olmayanların başvuruları
- Gereksiz sebeplerle başvurular
- Nezle, grip gibi sebeplerle başvurular
- Kanunların ve yönetmeliklerin acillerin kapılarını kontrolsüzce açmış olması

- **Asıl sebepler bunlar değil!!!**
- Bunlar çözülemez sorunlar – siyasi olarak mümkün değil
- Sizi acımasız gösterecek şikayetler
- Sorununuza sempatik bakılmasını engelleyen faktörler barındırıyor

http://www.hospitalovercrowding.com/overcrowding_for_dummies.htm

Acil servis yoğunluğunu tartışırken yapılan en büyük hata şu sebepleri öne sürme

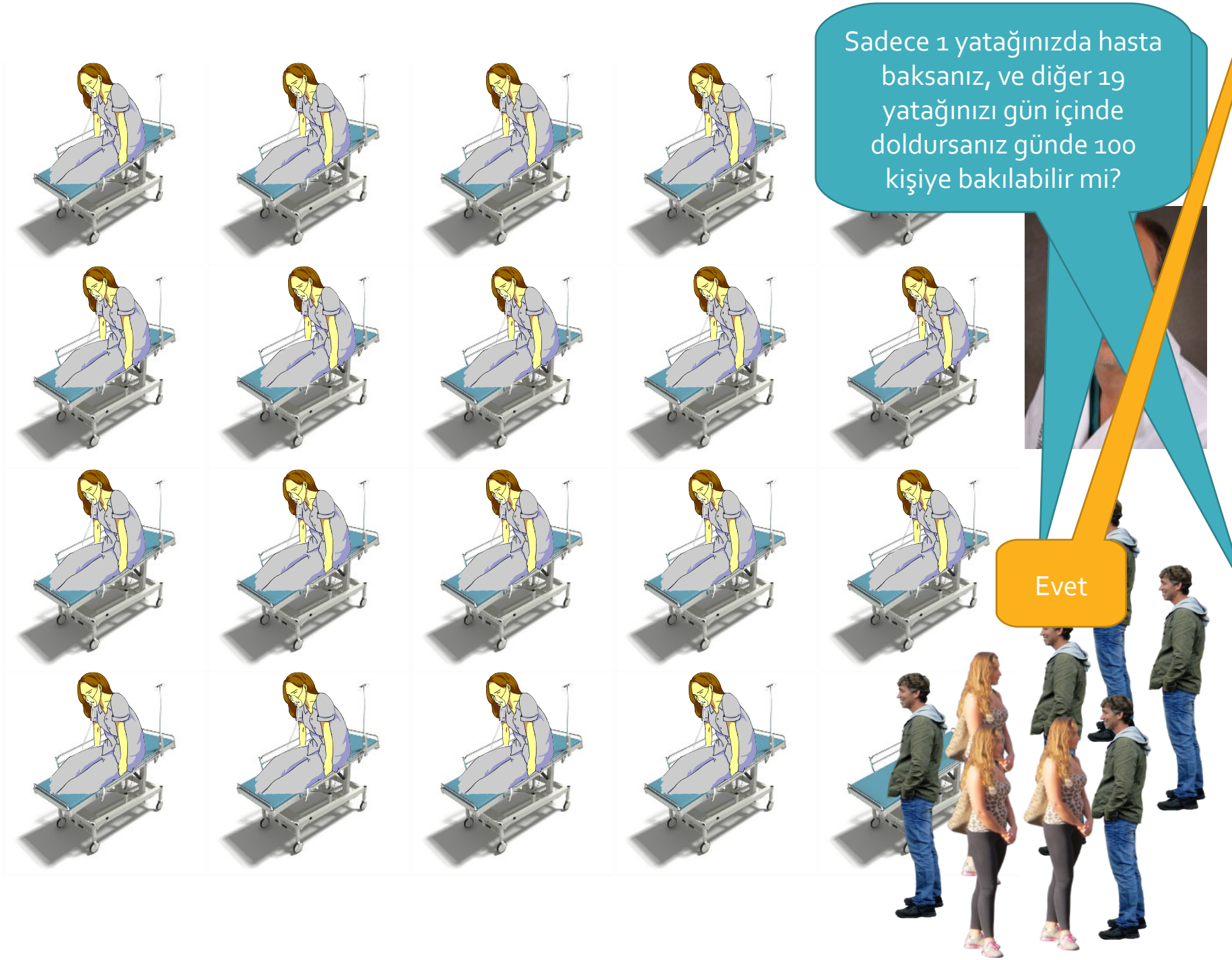
- Bekleyebilirler, ama eninde sonunda görülecek, değerlendirilecek, tedavi edilip taburcu edilecekler
- Hiçbir otorite bu noktada geri adım atamaz
- Çözülebilecek kısımlara odaklanmalı

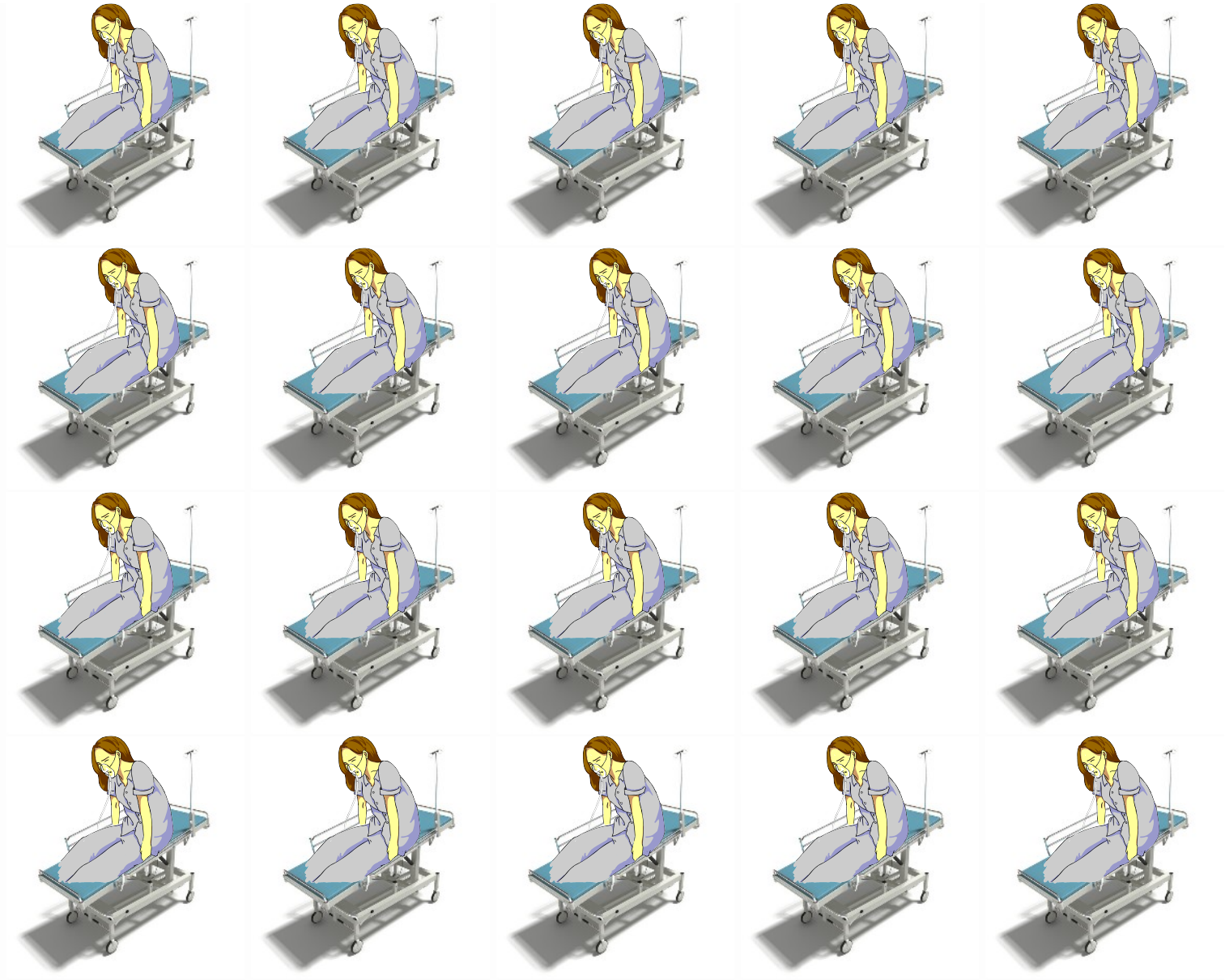
http://www.hospitalovercrowding.com/overcrowding_for_dummies.htm

New York'daki Acil Servis Kalabalığının sebebi:

- Havuz sürekli doluyor
- Ama çok zor boşalıyor

http://www.hospitalovercrowding.com/overcrowding_for_dummies.htm


Sadece 1 yatağınızda hasta baksanız, ve diğer 19 yatağınızı gün içinde doldursanız günde 100 kişiye bakılabilir mi?
Evet



Peki ya şimdi?

Uygunsuz ya da «gereksiz» acil ziyaretleri

- Çalışmalar ne diyor?
  - Eğitim: %5 azalma - %20 artma!!!
- Faydası ne?
  - Mükemmel planlanmış bazı çalışmalara göre minör problemleri olan hastalar, ciddi hastaların bekleme süreleri üzerinde **ÇOK ETKİLİ DEĞİL**
  - Acil servis kalabalığına çözümde **faydası YOK**

ADMINISTRATION/HEALTH CARE POLICY

Holding Admitted Patients in the Emergency Department Is Most Highly Correlated with Longer Patient Throughput Times

Brigitte M. Baumann, Michael E. Chansky and Edwin D. Boudreaux

UMDNJ-Robert Wood Johnson Medical School: Camden, NJ

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Yatamayan hastalar AS'de geçirilen uzun süre ile en ilişkili faktör

ABSTRACT

OBJECTIVE: To determine which index of **overcrowding** (daily census, admission rates, or hours on bypass) has the strongest association with pt throughput times. **METHODS:** A prospective daily random sample (10%) of all visits from 11/02 to 11/03 to an urban academic ED was selected for chart abstraction. Pt throughput times were calculated for: triage to physician evaluation (Tri-MD), triage to discharge (Tri-DC), triage to transfer to floor bed (Tri-Fl), physician evaluation to admit decision (MD-Dec), and physician admit decision to floor transfer (Dec-Fl). Daily census, telemetry, floor, and total admissions were recorded as well as hours spent on bypass. Reasons for bypass (lack of pt care areas due to admission holds, volume and high ED pt acuity) were also recorded. Data were analyzed using Spearman rank correlations and multiple linear regression. **RESULTS:** During the study period, 47,000 pt visits occurred and 5,000 charts were reviewed. A mean of 5.75 hrs/day (SD, 5.9 hrs) were spent each day on bypass, with 86% of bypass hours due to admission holds, 11% due to ED volume, and 3% due to high ED pt acuity. Hours spent on bypass had the highest correlation to the length of pt throughput

Baumann BM, Chansky ME, Boudreaux ED. Holding admitted patients in the emergency department is most highly correlated with longer patient throughput times. Acad Emerg Med 2004;11:453.

Hastane doluluğu AS'de uzun bekleme süresiyle en ilişkili değişken. Müsait yatak sayısının arttırılması AS kalabalığını engelleyebilir.

ACAD EMERG MED • February 2003, Vol. 10, No. 2 • www.aemj.org

The Effect of Hospital Occupancy on Emergency Department Length of Stay and Patient Disposition

Alan J. Forster, MD, MSc, Ian Stiell, MD, MSc, George Wells, PhD, Alexander J. Lee, BSc, Carl van Walraven, MD, MSc

Abstract

Emergency department (ED) overcrowding is a common problem. Despite a widespread belief that low hospital bed availability contributes to ED overcrowding, there are few data demonstrating this effect. Objectives: To identify the effect of hospital occupancy on ED length of stay for admitted patients and patient disposition. Methods: This was an observational study design using administrative data at a 500-bed acute care teaching hospital. All patients presenting to the ED between April 1993 and June 1999 were included in the study. The predictor variable was daily hospital occupancy. Outcome measures included daily ED length of stay for admitted patients, daily consultation rate, and daily admission rate. The models controlled for the average daily age of ED patients and the average daily "arrival density" index, which adjusts for patient volume and clustering of patient arrivals. Results: The average hospital occupancy was 89.7%. On average 155 patients visited the ED daily; 21% were referred to hospital physicians and 19% were admitted. The median ED length of stay for admitted patients was 5 hours 54 minutes (interquartile range 5 hr 12 min to 6 hr 42 min). Daily ED length of stay for admitted patients increased 18 minutes (95% CI = 12 to 24) when there was an absolute increase in occupancy of 10%. The ED length of stay appeared to increase extensively when hospital occupancy exceeded a threshold of 90%. Consultation and admission rates were not influenced by hospital occupancy. Conclusions: Increased hospital occupancy is strongly associated with ED length of stay for admitted patients. Increasing hospital bed availability might reduce ED overcrowding. Key words: overcrowding; emergency health services; hospital services; utilization; time series analysis. ACADEMIC EMERGENCY MEDICINE 2003; 10:127–133.

Forster AJ, Stiell I, Wells G, Lee AJ, van Walraven C. The effect of hospital occupancy on emergency department length of stay and patient disposition. Acad Emerg Med. 2003 Feb;10(2):127-33.

Impact of Critical Bed Status on Emergency Department Patient Flow and Overcrowding

Stephen Liu, MD, Cherri Hobgood, MD, Jane H. Brice, MD, MPH

Abstract

Objective: To compare measurements of emergency department (ED) patient flow during periods of acute ED [illegible] (NPV). [illegible] ED [illegible] spital [illegible] bed [illegible] 2001 [illegible] NPV [illegible] mber of care providers. All patients registered during these matched time intervals were reviewed. Times were collected for each of the following activities: check-in, bed placement, physician assessment, first intervention, and disposition. Corresponding intervals were calculated in minutes. Triage category was used as a marker of illness severity (1 = most severe, 5 = least severe). Descriptive statistics were performed. **Results:** One hundred eighteen patient charts were reviewed: 61 CBS and 57 NPV. There was no statistical difference in illness severity between the two groups. In the cumulative analysis, patients waited significantly longer for an ED bed (30.4 min, $p = 0.01$) but did not experience significant delays in other intervals. Triage category analysis revealed no significant difference in triage 2 patients. Intermediate-severity patients (triage 3) waited longer in every interval and significantly longer for physician assessment (30.8 min longer, $p < 0.05$). Low-severity patients (triage 4) waited longer for an ED bed (40 min, $p = 0.02$) but did not experience other significant delays. **Conclusions:** During times of acute overcrowding, the most significant delay occurs awaiting placement in the ED bed.

Key words: emergency departments; overcrowding; patient flow; wait times. ACADEMIC EMERGENCY MEDICINE 2003; 10:382–385.

Akut kalabalık durumlarında AS hastalarının en uzun bekleten faktör yatağa yatırılma süreci

Liu S, Hobgood C, Brice JH. Impact of critical bed status on emergency department patient flow and overcrowding. Acad Emerg Med. 2003 Apr;10(4):382-5.

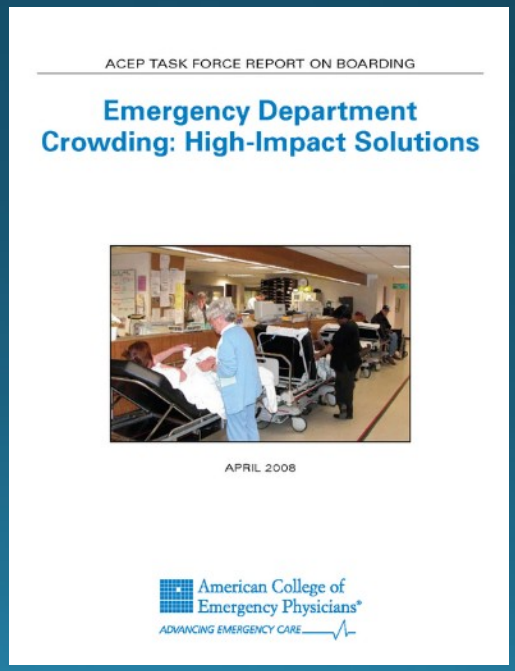
Acil Servis Yoğunluğunun Sebebi Aslında Net

Liu S, Hobgood C, Brice JH. Impact of critical bed status on emergency department patient flow and overcrowding. Acad Emerg Med. 2003 Apr;10(4):382-5.

ACEP 2008: Acil Servis Kalabalığının Sebebi

(2) What Causes Crowding? Recently, there has been greater understanding of why boarding—the practice of holding admitted patients in the emergency department when there is no "proper" space for them in the institution—is the primary cause of overcrowding. Over the years, the reasons for crowding have included seasonal illnesses and visits by the poor and uninsured who have nowhere else to turn except the "safety net" provided by emergency departments. This latter trend has resulted from the Emergency Medical Treatment and Labor Act (EMTALA), which requires hospital emergency departments to medically screen and stabilize all patients with medical emergencies, regardless of their ability to pay.

- **Yatamayan hastalar** kanıtlanmış en önemli sebep


ACEP TASK FORCE REPORT ON BOARDING

Emergency Department Crowding: High-Impact Solutions

APRIL 2008

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1

Hakkınız arayın:
Acil Tıp Hekimleri çok yönlü, güven veriyor ve haklarını aramaktansa işlerini yapıyorlar

- Servis yatakları dolu diye hiçbir cerrahi hastası ameliyattan sonra ameliyathane içinde günlerce yatak beklemez
  - Cerrahlar hemen eyleme geçer ve yönetimleri ikna ederler
- Yeterli hemşire, donanımlı yatak yok diye hastalar YBÜ'ne alınmaz, ama acilde beklemelerinde sorun yoktur
  - Yoğun bakım hekim ve hemşireleri kendi 2:1, 1:1 hasta/hemşire oranlarını tüzük ve kanunlara işletmeyi başarmışlardır ve asla taviz vermezler
  - Entübe ve YBÜ gerektiren bir hastanın yer yok sebebiyle acil serviste bırakılmasının hiçbir mantığı yoktur

Emergency Department Crowding: High-Impact Solutions. ACEP Boarding Task Force 2008 report

- **Bunların tek sebebi acil tıp hekimlerinin diğer**

En etkili çözüm yolu?

- Bizim işimiz acil ve akut durumdaki hastalar
- Yatırılmış olan hastalar bizim işimiz değil
- Acil kalabalığının en net etkili ve kanıtlanmış sebebi yatış verilmiş ama yatırılmamış hastalar **(Yatamamış Hasta)**
- Bizim çözümlerimiz ise hep kendi işimizin yükünü azaltmaya yönelik
- Çözümümüz bizim işimiz olmayan sebepleri azaltmaya yönelik olmalı

2 Basit mesajlar ve çözülebilir sorunlar sunun:

- Grip, sigortasız hastalar, evsizler, güvenlik sorunu, şiddet, acil olmayan hastaların acile yönlenmesi…
- Bunlar üstünde çok konuşulabilecek ancak net çözümleri olmayan konular
- Size daha büyük acil ve daha fazla personel verilse sorun azalmayacak, hatta artacak
- Bu yüzden bu sorunları gündeme getirmeyin:
  - Tam kapasite protokolü üzerine yoğunlaşın
  - Acilinizde yatamayan 20 hasta yerine her servise 1'er hasta koymanın iş yükünüze ve hızınıza etkilerini anlatın
  - Aşli işinden kaçmaya çalışanlar olarak acil hekimlerini görme eğilimi mevcut, bunu güçlendirmeyin

Emergency Department Crowding: High-impact Solutions. ACEP Boarding Task Force 2008 report

Acil Servis Yoğunluğunun Çözümü

http://www.hospitalovercrowding.com

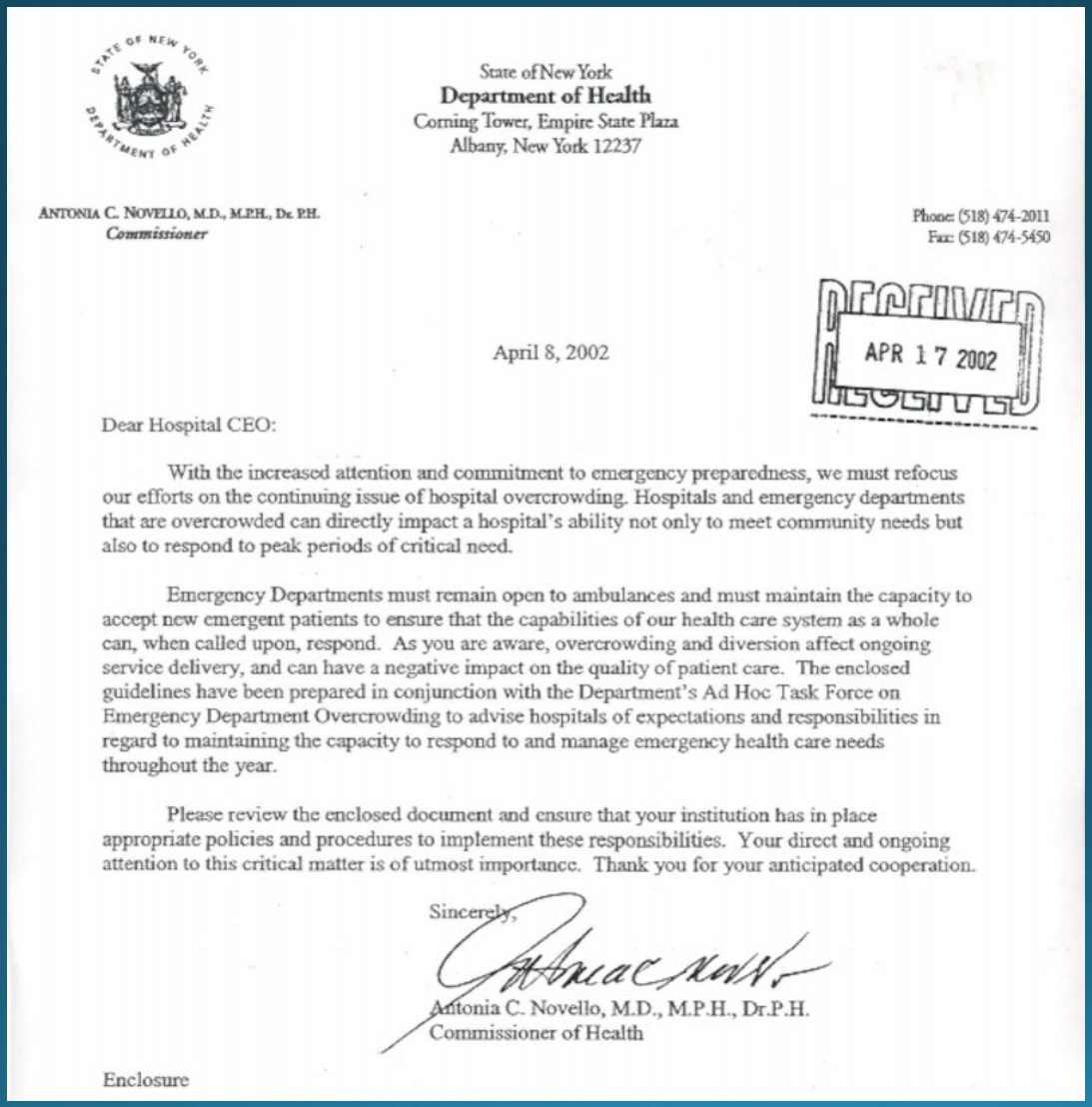
ABD Ulusal Stratejisi (2002 öncesi):

- Yatan hastalar yüzünden acil servis doluysa -> ambulansların başka yere yönlendirilmesi

- Dolayısıyla da
  - Basit hastaların tedavi alacak,
  - takibe girecek,
  - sonuç bekleyecek yatağı olmadığından

  - bekleme salonlarında ve acil servis önünde daha fazla bekleme,
  - memnuniyetsizlik,
  - şikayetler ve kavgalar

2002'den sonra ne oldu?



State of New York
Department of Health
Corning Tower, Empire State Plaza
Albany, New York 12237

ANTONIA C. NOVELLO, M.D., M.P.H., Dr. P.H.
Commissioner

Phone: (518) 474-2011
Fax: (518) 474-5450

RECEIVED
APR 17 2002

April 8, 2002

Dear Hospital CEO:

With the increased attention and commitment to emergency preparedness, we must refocus our efforts on the continuing issue of hospital overcrowding. Hospitals and emergency departments that are overcrowded can directly impact a hospital's ability not only to meet community needs but also to respond to peak periods of critical need.

Emergency Departments must remain open to ambulances and must maintain the capacity to accept new emergent patients to ensure that the capabilities of our health care system as a whole can, when called upon, respond. As you are aware, overcrowding and diversion affect ongoing service delivery, and can have a negative impact on the quality of patient care. The enclosed guidelines have been prepared in conjunction with the Department's Ad Hoc Task Force on Emergency Department Overcrowding to advise hospitals of expectations and responsibilities in regard to maintaining the capacity to respond to and manage emergency health care needs throughout the year.

Please review the enclosed document and ensure that your institution has in place appropriate policies and procedures to implement these responsibilities. Your direct and ongoing attention to this critical matter is of utmost importance. Thank you for your anticipated cooperation.

Sincerely,

Antonia C. Novello, M.D., M.P.H., Dr.P.H.
Commissioner of Health

Enclosure

Corning Tower, Empire State Plaza
Albany, New York 12237

ANTONIA C. NOVELLO, M.D., M.P.H., Dr. P.H.
Commissioner

Phone: (518) 474-2011
Fax: (518) 474-5450

- AS'ler ambulanslara sürekli açık olmalı ve yeni hastaları her an kabul edebilecek durumda olmalı
- Bu sebeple de hastaneler için bir kılavuz hazırladık

RECEIVED
APR 17 2002

April 8, 2002

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Sincerely

GUIDANCE DOCUMENT FOR HOSPITALS
Overcrowding / Emergency Preparedness
Hospital Obligations & Responsibilities

Hospitals must meet the needs of the communities they serve on an ongoing basis. It is the responsibility of the hospital's Governing Body and Senior Management personnel to review the following guidelines and to implement, as appropriate.

- Emergency preparedness and readiness is not an episodic response, but is an ongoing commitment to maintaining a hospital's capacity and capabilities to respond to emergencies. Emergency Departments need to remain open and fully operational to ensure that each hospital is able to maintain the capacity to respond, not only to episodic events, but to long term or seasonal periods of overcrowding.
- Hospitals should use all available inpatient beds in managing admissions from the emergency department. Maintaining admitted patients within the emergency department is not acceptable. Hospital administration must be proactive in identifying and utilizing inpatient beds for admissions from the emergency department. All hospital beds and inpatient areas should be identified and considered in determining bed assignments. During peak periods of overcrowding, as a temporary emergency measure, the use of beds in solariums and hallways near nursing stations should be considered consistent with a facility –wide plan to alleviate hospital overcrowding.

- AS'ler sürekli açık ve tam kapasite çalışabiliyor olmalıdır
- Bu durum anlık ya da günlük değil, tüm zamanlar hep doluymuş gibi düzenlenmelidir

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- AS'den yatışları sağlamak için **tüm hastane yatakları kullanılabilir olmalıdır**
- AS'lerde **yatışı verilmiş hasta beklememelidir**
- **24 ya da 48 saat bekleme süreleri kabul edilemez**
- Tüm yatakların dolu olması durumunda **katlardaki hemşire istasyonlarının yanındaki koridor ve**

- Ambulance diversion is an emergency response to overcrowding that is to be used sparingly and only upon the direction of the hospital's key administrative staff. Hospital administration is responsible to document and monitor all diversion practices and decisions. As hospitals proceed with emergency preparedness planning, all trauma centers, hospitals, counties, and Regional Emergency Medical Advisory Committees, are advised to meet and collectively establish and/or assess the effectiveness of countywide or systemwide diversion policies and practices.

- Hospitals are required to have in place effective monitoring protocols to track and identify length of stay patterns and deviations, both for inpatients and for patients in the emergency department. Priority attention should be given to initiating inpatient and emergency department discharge planning activities to ensure the prompt and safe discharge of patients. Efforts to coordinate with community resources, nursing homes and other patient support services should be in place and functioning at all times.

- Ambulansların kabul edilmemesini çok ciddi sonuçları vardır. Ancak hastane yöneticisinin onayıyla ve çok yoğun anlarda Tam Kapasite Protokolü'ne ek olarak uygulanmalıdır.
- Hastane yatış süresi paternleri hem kat hem de acil servis hastaları için kayıt altına alınmalıdır.
- Hastaların yatış sürelerinin kısaltılması için **hızlı ve güvenli şekilde hasta taburculuğu protokolleri oluşturulmalıdır, hastalar gereğinden fazla yatmamalıdır**

- Ambulances and EMS personnel should not be detained in the emergency department and should be placed promptly back into service. To ensure that patient care needs are met by hospital staff, ambulance patients must be transferred promptly to emergency department staff.
- Hospitals should evaluate staffing levels on a hospital-wide basis. Cross training and coordination among programs and services is necessary to ensure adequate staffing levels during peak periods of need.
- Hospitals must assume responsibility for the quality and appropriateness of all patient care services. Regardless of location within the facility, staffing, services, privacy, infection control and confidentiality protections must be consistently in place.
- Hospitals must make available to ED staff the ancillary services which permit the prompt disposition of patient care needs. The 24-hour availability of transport services is necessary to meet patient needs and to allow for the timely transfer of admitted patients

New York State Department of Health
April 2002

TOTAL P.03

- **Ambulans ekipleri AS'lerde mahsur tutulmamalıdır**, hastalar hemen acil servis ekiplerine devredilmeli ve ekipler görev yerlerine dönmelidir
- Yoğun saatlerde **personel sayısı artacak şekilde çalışma saatleri değiştirilmelidir**
- Destek hizmetleri AS ihtiyaçlarına yanıt verecek şekilde 7/24 çalışmalıdır

Katlarda koridorda hasta yatmasına hem yöneticilerden hem de kat çalışanlarından d nç

2004

TO UPN/UPMA/ED MPIIA, DS, FD
FROM J BROWNAW, MD

State of New Jersey
DEPARTMENT OF HEALTH AND SENIOR SERVICES
PO BOX 360
TRENTON, N.J. 08625-0360

JAMES E. MCGREEVEY
Governor

www.state.nj.us/health

CLIFTON R. LACY, M.D.
Commissioner

May 28, 2004

TO: Hospital Chief Executive Officers

FROM: Marilyn Dahl, Deputy Commissioner MD
Health Care Quality and Oversight

SUBJECT: Management of Emergency Department Patients Awaiting Admission

The Department of Health and Senior Services (Department) is aware that New Jersey hospitals are under pressure to manage increasing emergency department volumes. Several hospitals and physicians have inquired about statutory or regulatory barriers to implementing a policy in which stabilized and admitted patients from the emergency department are transported to a hospital floor and monitored by nursing staff there while waiting for a bed to become available.

The hospital licensing standards at N.J.A.C. 8:43G do not contain any explicit prohibitions against transporting and holding stabilized admitted patients on the floor to which they have been admitted. These standards do require, however, that all corridors shall be kept free of obstructions (N.J.A.C. 8:43G-24.13(e)).

The Department supports the efforts of New Jersey hospitals to ensure that patients admitted as inpatients through the emergency department receive high quality care in a safe and timely manner. We also acknowledge that, for admitted patients awaiting a bed, care in the inpatient unit rather than in the emergency department while awaiting a bed may be preferable clinically.

Therefore, the Department will permit the placement of stabilized patients awaiting a bed and admitted from the emergency department on inpatient floors, so long as the hospital maintains compliance with the hospital licensing standards and has developed hospital board-approved policies and procedures addressing the following:

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Therefore, the Department will permit the placement of stabilized patients awaiting a bed and admitted from the emergency department on inpatient floors, so long as the hospital maintains compliance with the hospital

1. The specific placement of patients being held in the corridors must ensure that access to fire exits is not hindered and that the flow of traffic on the unit is not obstructed.

2. The hospital must have specific written policies and procedures established and approved to ensure that patient safety, security and privacy are maintained. Such policies and procedures must address:

   - The maximum number of patients which may be held on any unit awaiting a bed assignment;
   - Units which are eligible to receive patients admitted but awaiting a bed; the ICU and any other units on which patients require specialized monitoring shall be excluded as ineligible units;
   - Criteria for patients eligible (and ineligible) for transport and holding on a unit. Such criteria must be solely clinical in nature and shall not reflect patient payment status or source of payment. Patients with specified communicable diseases or special monitoring shall be ineligible for holding on a unit;
   - Practices to ensure medical records security for patients held on the unit and awaiting a bed;
   - Communications protocol between the emergency department and the unit to which the patient is transported to ensure that relevant patient information is conveyed to the unit nursing staff; and
   - Patient care protocols for the ongoing monitoring and care of patients awaiting a bed, including documenting in the patient chart.

3. The acuity system and unit staffing must reflect patients being held in the corridor awaiting a bed. Patients held in the corridor of a unit must be counted in the patient census when unit staffing is determined.

4. Emergency department and unit personnel must be fully oriented and receive routine in-service education on the policies and protocols for transporting and holding admitted patients on inpatient units.

5. The hospital's quality assurance (QA) process should carefully monitor the impact on patient care and patient satisfaction of this practice.

- Koridorlara alınan hastalar yangın çıkış yollarına konulmamalı
- Aşağıdaki konularda yazılı protokoller hazırlanmalı
  - Katta yatış bekleyebilecek maksimum hasta sayısı
  - Yatış için hasta bekletebilecek birimlerin hangileri olduğu (YBÜ bunun dışında)
  - Hastanın sigorta ve ödeme durumu hiçbir şekilde göz önüne alınmaksızın tamamen klinik olarak hangi hastaların kata çıkmaya uygun olduğu
  - Tıbbi kayıtların eksiksiz biçimde tutulmaya devam edilmesi

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- **Kattaki personel sayısı belirlenirken koridorlarda yatabilecek hasta sayısı da hesaba katılarak planlama yapılmalı**

Tam Kapasite Protokolü

ACEP TASK FORCE REPORT ON BOARDING

Emergency Department Crowding: High-Impact Solutions

APRIL 2008

American College of Emergency Physicians®

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High-Impact Solutions

The following solutions would have significant impact on reducing boarding and improving the flow of patients through emergency departments:

- **Move emergency patients who have been admitted to the hospital out of the emergency department to inpatient areas, such as hallways, conference rooms, and solaria** (see Full Capacity Protocol at www.hospitalovercrowding.com). If each hospital unit would care for a small number of additional patients, the burden of boarding would be more evenly spread across the hospital, thus freeing the emergency department to function effectively without unduly stressing the inpatient units.
- **Coordinate the discharge of hospital patients before noon. Research shows that timely discharge of patients can significantly improve the flow of patients through the emergency department by making more inpatient beds available to emergency patients.** However, the discharge process has become more complex, and discharging patients by noon will require leadership and a change in culture and process that must involve physicians, nurses, and staff from ambulances, nursing homes, social work, care management, pharmacy, radiology, lab, and housekeeping.
- **Coordinate the scheduling of elective patients and surgical patients.** Studies show that the uneven influx of elective surgical patients (heaviest early in the week) is a prime contributor to hospitals exceeding their capacity.

Kesin etkili çözümler

- **Yatamamış hastalar katlardaki koridor ve ara boşluklara çekilmeli**
- **Çıkışlar öğleden önce tamamlanmalı**
- **Acil serviste yatış bekleyen hasta varken servislere başka yatış yapılamamalı**

http://www.hospitalovercrowding.com

Maliyetli ek çözümler

Additional Solutions

Improving the flow of patients through emergency departments can save time but often adds significant costs. Methods of improving flow, such as using scribes, adding nurses and support personnel, improving turnaround time for lab and X-ray (including the use of point-of-care testing), establishing electronic records, installing registration kiosks, and allowing nurses to order tests at triage (advance triage) can decrease triage to discharge time. However, the costs to implement these procedures often exceed the amount of savings they generate.

- **Tıbbi kayıt personeli atanarak hekimin yazı işinin azaltılması**
- Hemşire ve destek personelin arttırılması
- **Hızlı lab testlerinin ve radyoloji** cihazlarının kullanılması, sayısının arttırılması
- Kayıt masası, kioskları oluşturulması
- **Hemşirelerin triyajdan bazı tetkikleri istemeleri** için

http://www.hospitalovercrowding.com

Maliyetli ek çözümler

- **Fast Track Units.** Triaging patients with nonurgent medical conditions to a separate area of the emergency department for care, a practice known as "fast-tracking," often requires more personnel but also gives staff the ability to quickly handle low-acuity patients. However, further partitioning the emergency department into separate units might not be helpful and also will create silos and obstacles to patient flow.

- **Hızlı bakı birimleri** kurulması:
  - Daha fazla personel gerekir
  - Acil servis daha da bölümlenir
  - Çok küçük alanda çok fazla hasta birikir
  - Hasta ve yakınları arasındaki etkileşim, toplu davranış biçimleri artar
  - Hasta akışı ve dağılımı bozulur

http://www.hospitalovercrowding.com

Maliyetli ek çözümler

- **Physician Triage.** Involving a physician in the triage process is a costly way to discharge low-acuity patients quickly, which depending on the number of low-acuity patients might be helpful. However, referring patients away from the emergency department will require adequate options for such referrals.

- **Hekim triyajı:**
  - Hastalar muayene edilmediğinden **ciddi gelir kaybı**
  - **Hastaların yönlendirilebileceği yerler olmalı**
  - **Aile hekimliği, boş ve acile ayrılmış günlük poliklinik sıraları**

http://www.hospitalovercrowding.com

Faydasız Yaklaşımlar

"Solutions" That Are Not Effective

Some hospitals have expanded their emergency departments as a way to increase their capacity to care for patients. However, this does not solve overcrowding. With less pressure on the system, the hospital might simply expand into the additional space, increasing rather than decreasing the number of admitted patients who are boarded. A more effective solution would be to add an observation area.

In addition, specified areas for discharged patients on inpatient floors tend not to be used by the inpatient nurses except when the full capacity protocol places stress on their parts of the system.

Some hospitals employ hospitalists to coordinate patient care. Using hospital-based physicians, such as hospitalists and intensivists, has been shown to decrease hospital lengths of stay but not emergency department waiting times.

Ambulance diversion is used by many emergency departments, but it is increasingly evident that, in most circumstances, it simply doesn't work. Also, a growing amount of research substantiates the harm to patients whose care is delayed because of being diverted to hospitals farther away. The research suggests the practice is both unsafe and ineffective and should be abandoned as an option for addressing the problems of hospital crowding. Some systems that have eliminated diversion as an option have not seen a worsening of crowding.

- **Acil servisin büyütülmesi ve yeni aciller açılması**
  - **Aksine ZARARLI**
  - Büyütülecek alan gözlem ünitesi ve ara yatış alanları olmalı.

http://www.hospitalovercrowding.com

SB tarafından önerilen çözüm: Daha büyük hastaneler

Şehir hastaneleri

Çağıl, çok sayıda ilde kurulacak şehir hastanelerinin hem acil hem de diğer sağlık hizmetlerinin sunumunda büyük rahatlama sağlayacağını, daha geniş ve ferah mekanlar oluşturulacağını söyledi.

Yirminin üstünde proje olduğunu kaydeden Çağıl, şehir hastaneleri dışında, Sağlık Bakanlığı'nın kendi imkanlarıyla inşa edilecek yeni hastaneler ve hizmet alanlarının genişletilmesiyle mekansal sorunların çözümlenmeye çalışıldığını belirtti.

Faydasız Yaklaşımlar

"Solutions" That Are Not Effective

Some hospitals have expanded their emergency departments as a way to increase their capacity to care for patients. However, this does not solve overcrowding. With less pressure on the system, the hospital might simply expand into the additional space, increasing rather than decreasing the number of admitted patients who are boarded. A more effective solution would be to add an observation area.

In addition, specified areas for discharged patients on inpatient floors tend not to be used by the inpatient nurses except when the full capacity protocol places stress on their parts of the system.

Some hospitals employ hospitalists to coordinate patient care. Using hospital-based physicians, such as hospitalists and intensivists, has been shown to decrease hospital lengths of stay but not emergency department waiting times.

Ambulance diversion is used by many emergency departments, but it is increasingly evident that, in most circumstances, it simply doesn't work. Also, a growing amount of research substantiates the harm to patients whose care is delayed because of being diverted to hospitals farther away. The research suggests the practice is both unsafe and ineffective and should be abandoned as an option for addressing the problems of hospital crowding. Some systems that have eliminated diversion as an option have not seen a worsening of crowding.

- Servislerde yatak boşaltmak için taburcu olacak hastaların gönderildiği **ara taburculuk bekleme salonları.**
  - Hemşireler «tam kapasite protokolü» baskısını yaşamadıkları sürece kullanmıyorlar. **Tek başına faydasız.**

http://www.hospitalovercrowding.com

Faydasız Yaklaşımlar

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- Kat hekimleri ve Dahiliyecilerin katlarda görevlendirilmesi ile yatış sürelerinin kısaltılmaya çalışılması.
  - Acil servis **bekleme süreleri üzerinde hiçbir etkisi gösterilmemiş**

http://www.hospitalovercrowding.com

Faydasız Yaklaşımlar

"Solutions" That Are Not Effective

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- **Ambulansların kabul edilmemesi, başka servislere yönlendirilmesi**
  - Toplam gelen ambulans sayısını ve bekleyen hasta sayısını değiştirmiyor
  - Hastalar zarar görüyor
  - **Asla kullanılmaması gereken tek seçenek**

http://www.hospitalovercrowding.com

Stony Brook Üniversite Hastanesi

Tam

The linked image cannot be displayed. The file may have been moved, renamed, or deleted. Verify that the link points to the correct file and location.		ADMINISTRATIVE POLICIES & PROCEDURES MANUAL CODE: LD:0065 RE-REVIEW DATE: (Assigned by Policy Review Committee)

SUBJECT Full Capacity Protocol		
RESPONSIBLE DEPARTMENT,DIVISION OR COMMITTEE: Medical Director's Office		
EFFECTIVE DATE ORIGINAL POLICY:	EFFECTIVE DATE REVISED POLICY: 2/22/2001	SUPERSEDES POLICY NUMBER:
	LAST REVIEW DATE: 6/15/06	DATED:

SUBJECT: SBUH staff facilitates the admission of patients held in the Emergency department awaiting Acute Unit Bed assignments through utilization of the Full Capacity Protocol.

SCOPE: Hospital wide

PURPOSE: To facilitate the admission of patients held in the Emergency Department awaiting Acute Unit Bed Assignment.

POLICY: When a patient requires admission to an Acute Care Unit from the Emergency Department and that area cannot accommodate the patient because of lack of sufficient beds, the patient will be admitted to the next most appropriate bed. In the event appropriate hospital bed utilization has been maximized, and the number of admitted patients holding in the Emergency Department has prohibited the evaluation and treatment of incoming patients to the Emergency Department in a timely fashion, the admitted Emergency Department patients already awaiting in house acute care bed assignments will be admitted to acute care unit hall beds.

The Bed Utilization Coordinator will facilitate this policy. When unavailable the house wide and will assume responsibility and assign hall beds in conjunction with the Bed Control Supervisor. On nights and weekends the ADN on duty serves this role.

The placement of patients to hall beds will be implemented by the Bed Utilization Coordinator only after the Emergency Department Attending Physician, the Charge Nurse and the Bed Utilization Coordinator have declared the need to implement Full Capacity Protocol. The decision of patient placement by the Bed Utilization Coordinator after discussion with the Emergency Department Attending physician (if indicated) shall be binding.

Stony Brook Üniversite Hastanesi Tam Kapasite Protokolü, 2006

- Gözlem ya da Akut Bakım alanlarına ilk bakı alanlarından hasta gönderilmek istendiğinde eğer yer yoksa protokol aktif hale gelir
  - Önce hastalar katlardaki en uygun yatağa alınır (kendi birimi)
  - Bunlar müsait değilse en uygun ikinci seçenek yataklara alınır (cerrahi hastalar cerrahi birimlere)
  - Bunlar da doluysa en uygun koridora alınır (kendi birimi)
  - Bunlar da müsait değilse en uygun ikinci seçenek koridorlara alınır (cerrahi hastalar cerrahi birimlere)
- Koridor hastası olan birimler elektif cerrahi ve elektif yatış yapamaz
- Tüm koridorlar doluysa Acil Sağlık hizmetleri bilgilendirilerek ambulans kabulü kapatılır

Stony Brook Üniversite Hastanesi

DEFINITIONS: Full Capacity Protocol identifies 'full capacity" when the main department of the ED is full and admitted (E.D.) patients are awaiting in-house placement.

All unoccupied acute floor beds should be utilized before Hall beds are used, where nurse competency permits such placement.

A. Patient Priorities for Hall Bed Placement;

1 Patients with minimal to moderate risk factor co-morbidity will be first considered for hall bed placement.
2. Adults can be considered for a Pediatric Unit if a bed is available.

Telemetry patients will be assigned to hall beds only with approval of the Emergency Department Attending Physician and it has been confirmed that the receiving in - house unit has a telemetry box and a central monitoring slot.

- Koridorlar için aday hastalar hafif-orta risk faktörlerine sahip hastalardır
- Pediyatrik birimlerde boş yatak varsa erişkin hastalar buralara yatırılabilir
- Monitörize hastalar Acil Tıp hekimi onayıyla ve başına bir monitör ayarlanarak koridorlara alınabilir

Stony Brook Üniversite Hastanesi

B. Exceptions:

1. Patients on Acute Units ordinarily will not be moved to hall beds in order to make room for patients admitted from the Emergency Department.
2. Patients being transferred out of Intermediate Care or the Intensive Care Unit beds will not be placed in hall beds.
3. If hall bed utilization has been maximized and the ICU is full, and there is one or more ICU patients waiting in the Emergency Department, the next available floor bed will go to an ICU patient transferring out of ICU (not to a hall bed patient).
4. Any "exception" to the above will be with the individual approval of the Medical Director or designee.

- İstisnalar:
  - Rutin yataktaki hastalar acil servisten gelecek hastalara yer açmak için koridora alınamaz
  - Ara YBÜ ve YBÜ'de yer açmak için koridora hasta çıkartılamaz
  - Tüm koridorlar dolu, YBÜ dolu ve AS'de bekleyen bir ya da daha fazla YBÜ hastası varsa ilk boşalan yatak YBÜ'nden çıkartılacak ilk hastaya ayrılır
  - Tüm bu istisnalar Medikal direktör onayıyla anlık yok sayılabilir

Prosedür

A. Hall Patient Placement

1. The Emergency Department Attending Physician, Charge Nurse and the Bed Utilization Coordinator will declare full capacity. If there is disagreement between the ED and the Bed Coordinator, the Medical Director or designee will be contacted for a decision.
2. The Bed Utilization Coordinator/house wide ADN will notify the Directors of Patient Care of the activation of the Full Capacity Protocol.
3. Nursing Staffing Office will notify the inpatient units that the E.D. Full Capacity Protocol is in effect and of the need to prepare for hall bed patients. Nurse Managers will be notified that Full Capacity Protocol has been implemented irrespective of that unit receiving a patient.
4. Patients admitted to hallways on in-patient units will be assigned, as possible according to service. Ordinarily no one unit will have more than two hall patients.

- Koridora hasta yerleştirme prosedürü
  - AS Sorumlusu, Sorumlu Hemşire ve Yatak Koordinatörü AS'in tam kapasiteye ulaştığını onaylar
  - Anlaşmazlık durumunda medikal direktör karar verir
  - Balhemkimlik ve Başhemşirelik tam kapasite protokolüne geçildiği hakkında uyarılır
  - Kat hemşirelerine haber verilerek koridorlar hasta bakımı için hazırlanır
  - Tüm koridorlara en fazla 2'şer hasta alınacak şekilde program

Prosedür

B. Hall Bed Exclusions:

Admitted Emergency Department patients that will not be placed in hall beds:

1. Patient requiring the Intermediate Care Unit or the Intensive Care Unit.

2. Vented patients

3. Patients requiring Negative pressure room. Patients with an isolation code, other than those requiring negative pressure, may be placed in hallways **only** with the approval of an Infection Control Practitioner.

4. Patients requiring 4 L or greater of oxygen.

5. Patients that require suctioning.

6. Patients that have diarrhea or are incontinent of stool are poor candidates for hall placement.

- Koridora alınamayacak hastalar
  - Ara ya da Tam YBÜ gerektiren
  - Ventilatördeki
  - Negatif basınçlı oda gerektiren (Negatif basınçlı oda gerektirmeyen ancak izolasyon gerektiren hastalar Enfeksiyon onayıyla koridora alınabilir)
  - 4 L'den fazla Oksijen gerektiren

Prosedür

C. **Procedures for Discontinuation:**

1. Full Capacity Protocol may be discontinued when (1) The Emergency Department no longer needs hall bed placements or (2) The Emergency Department Attending, Charge Nurse and Bed Utilization Coordinator agree to stand down from the Protocol.

2. The Bed Utilization Coordinator/designee will notify the Nursing Staffing Office. The Nursing Staffing Office will notify all units.

- Prosedürün sonlandırılması
  - AS'den artık koridora hasta vermeyi gerektirecek kadar fazla yatan hasta kalmadığında
  - AS Soumlusu, Sorumlu Hemşire ve Yatak Koordinatorü'nün ortak kararına istinaden

Hasta yerleştirilecek koridor alanlarının özellikleri

- Trafiğin en az olduğu yerlere
  - Sedye park alanı, tedavi oadaları vs
- Tuvalet erişimi olan bir yere
- Hemşire çağırmaya yarayacak (wireless bir buton hatta bir otel zili bile olabilir) bir araç temin edilmeli
- Hastanın çevresi perde ya da panelle ayrılmalı
- Koridorlarda yerleştirilmiş tüm hastalar odaya geçtiğinde çiçek gönderilmeli
- AS'de 12 saatten fazla yatak beklemiş tüm hastalar odaya geçtiğinde çiçek gönderilmeli

Sonuçlar

Sonuçlar

- AS hasta sayısı %1,2 artmış
- Kritik hasta sayısı %5,7 artmış
- Ambulans sayısı %1 artmış
- Bekleme odası advers olayları %28 azalmış
- Ortalama yatamayan hasta sayısı 12,5'dan 7,9'a düşmüş
- Sağlanan günlük boş AS yatak süresi 110,4 saat
- Muayene bekleyen hasta süresi günde 113 saat azalmış
- Kritik bekleme alanı problemi

9

IMPACT of an overcapacity care protocol on emergency department and hospital access block

Innes GD, Grafstein E, Scheuermeyer F, Stenstrom R, Hunte G. St. Paul's Hospital and the University of British Columbia, Vancouver, BC

Introduction: A hospital overcapacity protocol (OCP) was implemented at our urban teaching centre in February 2006 because of waiting room (WR) adverse events related to overcrowding (access block). OCP dictates that arriving level I–III patients are placed in overcapacity ED care spaces rather than WR areas. When the ED is overcapacity by 2 patients, boarded patients move from the ED to inpatient overcapacity care spaces. Prior data showed that OCP reduced hospital length of stay (LOS) and ED LOS for boarded patients. The objective of this study is to assess the impact of OCP on ED access block (number of WR patients) and hospital access block (number of boarded patients held in the ED). **Methods:** Our ED information system tracks real-time patient location and status using electronic bed location and electronic consult and admission orders. We used these data systems to prospectively record patient status snapshots every hour during a 6-month pre-OCP period (March through August, 2005) and a corresponding 6-month post-OCP period in 2006. Outcomes include the mean number of WR and admitted patients, stratified by hour of the day. **Results:** During the post-OCP period, ED volume increased 1.2% (30 483 to 30 846), CTAS I–III volume rose 5.7% (13 078 to 13 828) and ambulance arrivals rose 1% (46.1–46.6/d). Despite this, the mean number of WR patients fell from 16.7 to 12, a 28% reduction in ED access block ($p < 0.001$); and the mean number of boarded patients fell from 12.5 to 7.9, a 37% reduction in hospital access block ($p < 0.001$). Reductions were consistent across all hours of the day, suggesting access block improvement during busy and nonbusy periods. Improvements equate to 110.4 ED stretcher hours made available daily and a 113 hour reduction in daily WR time for sick patients. During the post-OCP period, no critical events were reported in ED waiting areas or inpatient OCP care spaces. **Conclusion:** The OCP has led to significant reductions in ED and hospital access block, and reduces the number of patients left at risk without ED evaluation. **Keywords:** overcapacity protocol, ED crowding, access block

Innes GD, Grafstein E, Scheuermeyer F, et al. Impact of an overcapacity care protocol on emergency department and hospital access block. CJEM 2008;10:258.

Sonuçlar

- AS'de yatış süresi 18,9'da 13,9'a düşmüş
- Hastane yatış süreleri tıbbi, cerrahi ve psikiyatri hastaları için 1, 0.8 ve 0.8 gün kısalmış
- Yılda 41.000 saat ek sedye zamanı kazanılmış

40

IMPACT of an overcapacity care protocol on emergency department overcrowding

Innes GD, Grafstein E, Stenstrom R, Harris D, Hunte G, Schwartzman A. Department of Emergency Medicine, Providence Health Care and St. Paul's Hospital, Vancouver, BC

Introduction: In 2005, at this tertiary inner city hospital, because of prolonged boarding of admitted patients, 9249 triage level 2 and 3 (emergent and urgent) patients were blocked in ED waiting areas for 3 hours (estimated access gap= 27,750 hrs). Serious adverse events and waiting room deaths led to implementation of the overcapacity protocol (OCP) in February, 2006. The OCP dictates that arriving level 1-3 patients are placed in overcapacity ED care spaces rather than waiting areas. When the ED goes overcapacity by 2 patients, admitted patients boarded in the ED move to overcapacity care spaces on inpatient units. Our objective is to describe OCP impact on EDLOS and patient flow. **Methods:** This before-after analysis uses administrative data to compare the post-OCP period (March through August, 2006) to the corresponding control period in 2005. Outcomes include mean ED LOS for admitted patients as well as EDLOS and hospital LOS for admitted medical, surgical and mental health (MH) patients. **Results:** During the post-OCP period, ED volume rose from 30483 to 30846 (1.2%), CTAS 1-3 volume rose from 13078 to 13828 (5.7%), and daily ambulance arrivals rose from 46.1 to 46.6 per day (1%). Despite this, mean ED LOS for all admitted patients fell from 18.9 to 13.9 hrs ($p<0.001$). EDLOS fell by 9.0 hours, 1.6 hours and 9.2 hours for admitted medical, surgical and MH patients respectively. Similarly, hospital LOS fell by 1.0, 0.8 and 0.8 days for medical, surgical and MH patients ($p<0.001$ for all). After OCP, arriving emergent-urgent patients were rarely left in ED waiting areas. During the post-OCP period, no critical events were reported in ED waiting areas or inpatient OCP care spaces. **Conclusions:** A 5.0 hour mean reduction in EDLOS for 8200 annual admissions provides access to an additional 41,000 hours of ED stretcher and nursing time, more than the access gap estimated prior to OCP implementation. The OCP reduces ED LOS for admitted patients, reduces ED access block and appears to reduce adverse outcomes for ED patients.

Key Words: Triage, Overcrowding, Overcapacity

Innes GD, Grafstein E, Stenstrom R, et al. Impact of an overcapacity care protocol on emergency department overcrowding. CJEM 2007; 9:196.

Sadece %4

The Association Between Transfer of Emergency Department Boarders to Inpatient Hallways and Mortality: A 4-Year Experience

Asa Viccellio, MD
Carolyn Santora, RN
Adam J. Singer, MD
Henry C. Thode Jr., PhD
Mark C. Henry, MD

From the Department of Emergency Medicine, Stony Brook University, Stony Brook, NY.

Study objective: We developed and implemented an institutional protocol aimed at reducing crowding by admitting boarded patients to hospital inpatient hallways. We hypothesized that transfer of admitted patients from the emergency department (ED) to inpatient hallways would be feasible and not create patient harm.

Methods: This was a retrospective cohort study in a suburban, academic ED with an annual census of 70,000. We studied consecutive patients admitted from our ED between January 2004 and January 2008. In 2001, a multidisciplinary team developed and implemented an institutional protocol in which admitted adult patients boarded in the ED were transferred to hospital inpatient hallways under select conditions. We extracted data from the electronic medical record system, measuring patient demographics, ED disposition (discharge, admit to floor, admit to hallway), ED length of stay, and inhospital mortality. We report ED length of stay, subsequent transfer to an ICU, and hospital mortality of patients admitted to standard and hallway inpatient beds.

Results: Of 55,062 ED patients admitted, there were 1,798 deaths. Of all admissions, 2,042 (4%) went to a hallway; 53,020 went to a standard bed. Patients admitted to standard and hallway beds were similar in age (median [interquartile range] 55 years [37 to 72 years] and 54 years [41 to 70 years], respectively) and sex (48.2% and 50% female patients, respectively). The median (interquartile range) times from ED triage to actual admission in patients admitted to standard and hallway beds were 426 minutes (306 to 600 minutes) and 624 (439 to 895 minutes) minutes, respectively ($P<.001$). Median ED census at triage was lower for standard bed admissions than for hallway patients (44 [33 to 53] versus 50 [38 to 61], respectively, $P<.001$). Inhospital mortality rates were higher among patients admitted to standard beds (2.6%; 95% confidence interval [CI] 2.5% to 2.7%) than among patients admitted to hallway beds (1.1%; 95% CI 0.7% to 1.7%). ICU transfers were also higher in the standard bed admissions (6.7% [95% CI 6.5% to 6.9%] versus 2.5% [95% CI 1.9% to 3.3%]).

Conclusion: Transfer of ED-boarded admitted patients to an inpatient hallway occurs during high ED census and waiting times for admission but does not appears to result in patient harm. [Ann Emerg Med. 2009;54: 487-491.]

Provide feedback on this article at the journal's Web site, www.annemergmed.com.

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doi:10.1016/j.annemergmed.2009.03.005

Viccellio A, Santora C, Singer AJ, et al. The association between transfer of emergency department boarders to inpatient hallways and mortality: a 4-year experience. Ann Emerg Med 2009;54:487-91.

Daha yaşlı hastalar mı?

The Association Between Transfer of Emergency Department Boarders to Inpatient Hallways and Mortality: A 4-Year Experience

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Koridor Yatış Oranlarının Zamana Göre Dağılımı

Öğleden Sonra

%4,5

Geceyarısından Sonra

%3,6

Gündüz

%3,1

Viccellio A, Santora C, Singer AJ, et al. The association between transfer of emergency department boarders to inpatient hallways and mortality: a 4-year experience. Ann Emerg Med 2009;54:487-91.

Koridor Sedyelerinin Gerçek Yatağa Geçme Oranları

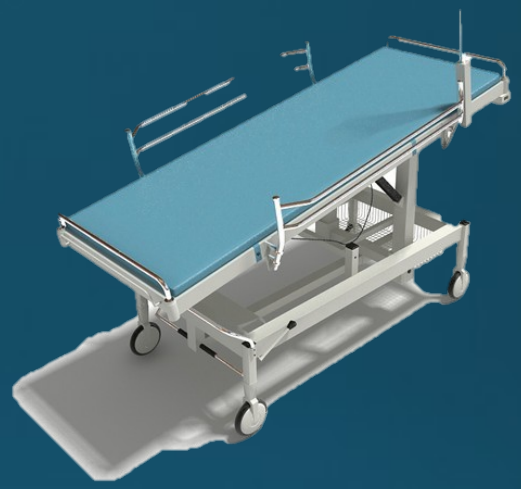
HEMEN %25

1 Saat İçinde %25

8 Saat İçinde %50

Viccellio A, Santora C, Singer AJ, et al. The association between transfer of emergency department boarders to inpatient hallways and mortality: a 4-year experience. Ann Emerg Med 2009;54:487-91.

Mortalite Oranları



%2,6

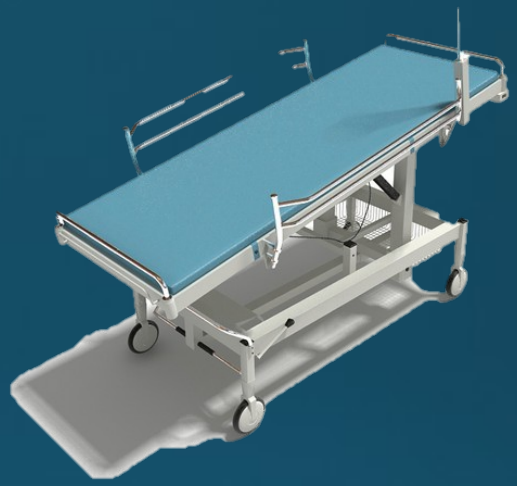
%95GA %2,5-%2,7

%1,1

%95GA %0,7-%1,7

Viccellio A, Santora C, Singer AJ, et al. The association between transfer of emergency department boarders to inpatient hallways and mortality: a 4-year experience. Ann Emerg Med 2009;54:487-91.

YBÜ Yatış Oranları



%6,7

%95GA %6,5-%6,9

%2,5

%95GA %1,9-%3,3

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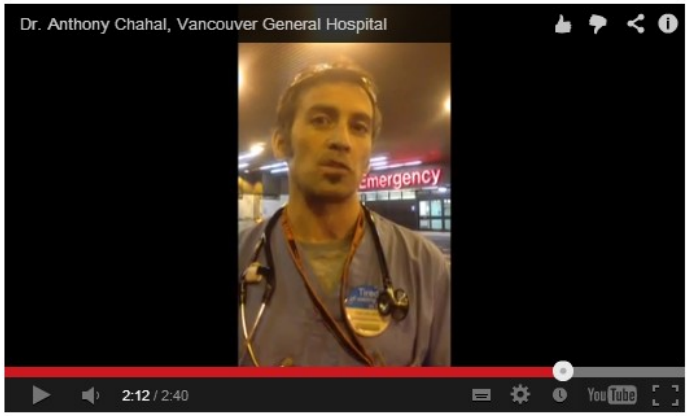

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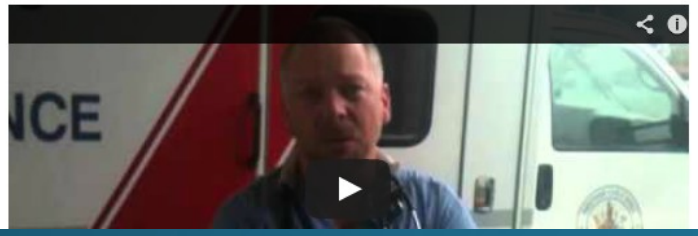
Dr. Jason Wale, Comox Hospital



Dr. Lyne Filiatrault, Vancouver General Hospital

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Dr. Kevin McMeel, Nanaimo Regional General Hospital

http://www.bcemergencycare.com/

- Delta Hospital
- Eagle Ridge Hospital
- Royal Columbian Hospital
- Royal Inland Hospital
- Lions Gate Hospital
- Kelowna General Hospital
- Prince George Hospital
- Penticton Hospital
- Abbotsford Regional Hospital
- BC Children's Hospital (BCCH)
- Campbell River Hospital
- Burnaby General Hospital
- Richmond Hospital
- Chilliwack General Hospital
- Cowichan District Hospital (CDH)
- Cranbrook Regional Hospital
- Langley Memorial Hospital
- Mt St Joseph's Hospital
- Nanaimo Regional General Hospital
- Saanich Peninsula Hospital
- St Paul's Hospital
- Surrey Memorial Hospital
- UBC Hospital
- Vancouver General Hospital
- Vernon Hospital
- St Joseph's General Hospital (Comox)

Report Card for:	Fall/Winter 2012-13

Prince George Hospital
1475 Edmonton Street
Prince George, British Columbia

Not enough doctors
Waiting for a doctor
Physician staffing deficiency

Our physician staffing level was set in 2010 based on seeing 44,000 patients a year. Since then, our ER patient visits have increased by 2,058 to 46,000– a 4 % increase. We expect to see 45-46000 patients this year – and our acuity has increased – we are seeing more older, sicker patients. Patients with potentially dangerous medical conditions on average wait more than 2 hours to see a physician (these patients should be seen within 30 minutes).

To deliver prompt and safe assessment, we, the ER docs at Prince George Regional Hospital (RCH) calculate our ER patients need 4 more hours of physician time each day to provide emergency waiting room assessment and care. We need one extra ER doc 365 days a year. In other words, to meet current needs, it will take 1 more Emergency Doc to staff a new 4 -hour shift all year. More patients, and more sicker patients need more doctors or ER patients wait too long.

For the first time ever we have recruited enough ER docs to cover the older, lower staffing level. A smart system would plan a year ahead because it takes time to recruit new Emergency docs, particularly to the North. Our patients can't wait for years to get timely care.

Overcrowding
Waiting for a bed...
Waiting for a stretcher...
Waiting for a nurse...
Waiting for triage (with ambulance)

We are a busy regional and cancer care hospital for the North. We are a busy Trauma Center. Our hospital runs at 110 % capacity. There is never an inpatient bed available. Our admission rate is unchanged from several years ago. Most admitted patients wait more than 14 hours to reach a bed. These patients are boarded in the emergency department where they receive less than ideal care. They also block all of the emergency beds on a regular basis.

Report Card for:	Fall/Winter 2012-13

Campbell River Hospital

Overcrowding ● **Access Block** Waiting for a bed... Waiting for a stretcher... Waiting for a nurse... Waiting for triage (with ambulance)	Campbell River has a busy community hospital serving the central and northern coast of Vancouver Island and the Northern Gulf Islands. Our hospital is often choked by over 100% capacity. That means when a new sick patient shows up in the ER there will not be an open bed upstairs. Our Emergency Department is old, our layout is poor and our ability to hold overcapacity patients is extremely limited. While we usually get admitted patients to the ward in less than 10 hours, when admitted patients block our stretchers, we quickly lose room to see new patients. We adapt by seeing patients in chairs and in hallways, compromising patient privacy, dignity and patient and staff safety in order to care for our patients. This is unacceptable care for our family, loved ones and the citizens of British Columbia. We suffer from an unrealistic government idea: that you design and staff hospitals based on 100% utilization of capacity. Thus in spite of population growth our new hospital will have essentially the same number of rooms and staffing as the old.
Not enough doctors ● Waiting for a doctor Physician staffing deficiency	As a Fee for Service Emergency Room, we have to see patients in order to be paid. Our schedule is staffed assuming flow of patients in, through and either home or upstairs to the wards. Overcrowding makes recruiting and scheduling physicians more difficult. A smart system would ensure good flow of patients allowing for an increase in scheduled physician staffing. Our patients can't wait indefinitely to get timely and appropriate care.

Report Card for:	Fall/Winter 2012-13

Vernon Hospital
2211 Wesbrook Mall
Vancouver, BC

Overcrowding ● **Access Block** Waiting for a bed... Waiting for a stretcher... Waiting for a nurse... Waiting for triage (with ambulance)	We are a referral centre for the interior of the province and a busy trauma center. Our hospital is choked by over 100% capacity. Patients often wait more than 6 hours to see a physician or get a stretcher in the department. Our minor treatment and less acute areas are blocked by admitted patients and we often don't have room to treat simple medical problems. Elderly patient often wait the longest. This is unacceptable care for our family, loved ones and the citizens of British Columbia. We also have long ambulance wait times. The Interior Health Authority administrators recognize the permanent in-patient ward access block experienced by our ER. They have implemented several new plans and procedures. From the ER patient's experience, however, nothing has worked well. Most of the time almost all Emergency stretches are blocked by admitted patients waiting for a bed in the hospital. No one is held accountable when ER patients wait indefinitely for in-patient care.
Not enough doctors ● Waiting for a doctor Physician staffing deficiency	As a Fee for Service Emergency Room, we have to see patients in order to be paid. Our schedule is staffed assuming flow of patients in, through and either home or upstairs to the wards. Now patients are waiting, but there is no safe place where we can examine them with dignity, where we can start treatment. The ER is blocked: all of its stretchers full of admitted patients.

URGENT Matters

An initiative to improve hospital patient flow and reduce emergency department crowding

Robert Wood Johnson Foundation
THE GEORGE WASHINGTON UNIVERSITY
SCHOOL OF PUBLIC HEALTH AND HEALTH SERVICES

URGENT Matters

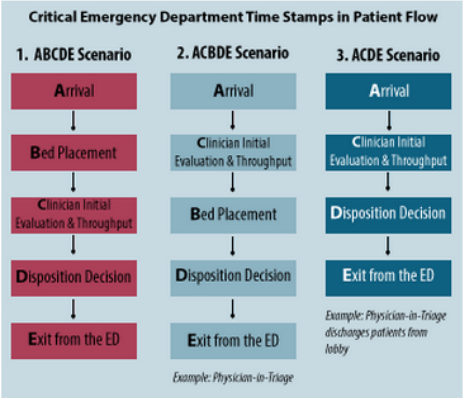
Toolkit

The Urgent Matters Toolkit is a collection of strategies and tools designed to target specific issues facing hospital emergency departments. This toolkit has been developed by hospitals across the country in conjunction with the Urgent Matters national program office at The George Washington University. Our goal is to continue to grow and expand the toolkit and make these resources available to the public.

Conceptual Model of ED Flow

Tools are categorized using the Conceptual Model of ED Flow: There are numerous ways that patients can flow through the ED. The conceptual model used here captures common facets of every ED stay. These are:

- **A**-Arrival (i.e.: door-to-doc, straight back, ESI),
- **B**-Bed placement (i.e.: treatment space, internal waiting room, fast track),
- **C**-Clinician initial evaluation (nurse, physician, or midlevel provider) & Throughput (i.e.: lab and imaging intervals, data to decision time),
- **D**-Disposition decision (i.e.: bed flow, flow coordination, consults) and
- **E**-Exit (i.e.: bed assignment interval, departure time, continuity of care) from ED



These five time points are commonly used when standardizing ED operational definitions. The ABCDE model is not affected by time of registration, nor immediate bedding strategies. To accommodate a physician-in-triage and scenarios where patients may be evaluated prior to bed placement, the conceptual model is flexible and can be adjusted, as seen with the ACBDE and ACDE scenarios shown in the figure above. Combined with the ABCDE scenario, these encompass nearly all of the possible flow scenarios seen in modern EDs. Using a conceptual model that is common to the majority of EDs allows similar segments (i.e. bed-to-clinician evaluation or BC interval) to be compared across EDs as well as between pre and post EHR implementation at a single facility.

Each strategy in the toolkit contains information about the hospital where the work originated, details about the implementation and outcomes, and related tools and documents. Strategies are organized by the five categories above, A, B, C, D, E, and each contains key words, clinical areas affected, and the staff involved.

View Complete Toolkit Search The Toolkit

Title [PDF Link]	Summary	Hospital	Pub. Date	Category
Accelerate the ED Intake Process [PDF]	Changes to the triage process were made to accelerate ED intake, focusing on three initiatives: direct-to-bed, mini-triage and mini-registration, placing patients into the system faster. The position of a floating triage nurse was also instituted to support these initiatives.	John Muir Medical Center	2005	A: Arrival B: Bed Placement C: Clinician Initial Evaluation
Bed Alert [PDF]	A bed alert system was created to help free inpatient beds when there are patients waiting to be transferred	UCSD Medical Center – Hillcrest	2005	D: Disposition Decision E: Exit from ED
Bed Cleaning Turnaround Improvement Process [PDF]	Bed cleaning had become a bottleneck for ED patients awaiting admission. To combat this problem, Boston Medical Center worked with the bed cleaning contractors at the hospital to reduce the bed turnaround time.	Boston Medical Center	2005	E: Exit from ED
Bedside Registration [PDF]	Cape Canaveral hospital implemented a streamlined bedside registration process in order to reduce the time patients spent waiting for treatment. Patients are registered while in triage or in the treatment room.	Cape Canaveral Hospital	2004	A: Arrival B: Bed Placement
Bedside Triage and Registration [PDF]	Patients are placed in beds immediately and registered and seen by providers as staff becomes available. This eliminates bottlenecks within the emergency department (ED) and reduces wait times for patients.	John F. Kennedy Medical Center	2008	A: Arrival B: Bed Placement C: Clinician Initial Evaluation

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Emergency Department Follow-Up Office [PDF]	Housed in the Follow-Up Office, a highly specialized team of registered nurses (RNs) and clerks inform patients about diagnostic tests completed after discharge, communicate with primary care and other community providers, and field calls from patients who have questions or concerns after leaving the hospital.	Stony Brook University Medical Center	2011	E: Exit from ED
Geriatric Emergency Department [PDF]	St. Joseph's Regional Medical Center designed an emergency department specifically equipped to meet the needs of geriatric patients.	St. Joseph's Regional Medical Center	2011	A: Arrival E: Exit from ED
Implementing Five-Level ESI Triage [PDF]	Replacing a four-level triage system with five-level ESI	Hahnemann University Hospital	2010	A: Arrival
Implementing MidTrack Process to Improve Left Without Being Seen Rates [PDF]	A new service model that segments ESI III patients at triage into a designated area with dedicated staff, the goal being to provide an environment geared towards treating those types of patients and making better use of resources.	Good Samaritan Hospital Medical Center	2010	A: Arrival B: Bed Placement
Improved Treatment of Asthma [PDF]	The hospital created a multidisciplinary team to develop an improved protocol for asthma patients in the emergency department (ED) in order to prevent return ED visits and reduce hospital length of stay.	Central DuPage Hospital	2008	D: Disposition Decision

Title [PDF Link]	Summary	Hospital	Pub. Date	Category
Reducing Inpatient Bed Turnaround Time [PDF]	The hospital's average bed turnaround time was almost three hours. By collecting staff suggestions and input, the hospital created a visual system for tracking dirty and clean beds, implemented an electronic bed tracking system, and updated housekeeping policy.	University Hospital San Antonio	2005	B: Bed Placement E: Exit from ED
Reducing the Left Without Being Seen (LWBS) Rate and Throughput Time [PDF]	Expansion of hospital ED bed capacity by utilizing existing space near the ED that could be re-purposed	Miami Children's Hospital	2004	B: Bed Placement C: Clinician Initial Evaluation
Registration Bypass for Psychiatric Patients [PDF]	To address delays in processing psychiatric patients, after triage psychiatric patients are immediately escorted to Psychiatric Emergency Services (PES) where bedside registration is completed.	University Hospital San Antonio	2006	A: Arrival B: Bed Placement
Reinventing Bed Huddles [PDF]	Twice-daily meetings that focus on such topics as hospital census figures, anticipated discharges, anticipated admissions and transfers.	Shady Grove Adventist Hospital	2009	D: Disposition Decision
Scheduling Follow-Up Appointments through the ED [PDF]	In order to improve the follow-up system for discharged ED patients without medical homes who required post-	University of California, San Diego Medical Center	2011	E: Exit from ED

http://urgentmatters.org/toolkit

Emergency Medicine Crowding and Boarding

Search this Section [ ] Search

As emergency departments throughout the country deal with the problems of crowding, boarding, and ambulance diversion, solutions have been sought. The resources on this page provide information, resources and examples of a variety of approaches to assist emergency physicians in addressing the crowding problems by working with hospital administrators, local stakeholders, policy makers and the public. Some ACEP chapters have sought relief through state legislative and regulatory action. These additional crowding resources are available in ACEP's Advocacy area.

ACEP Sends Comments to The Joint Commission on Patient Flow
NEW

Özetle…

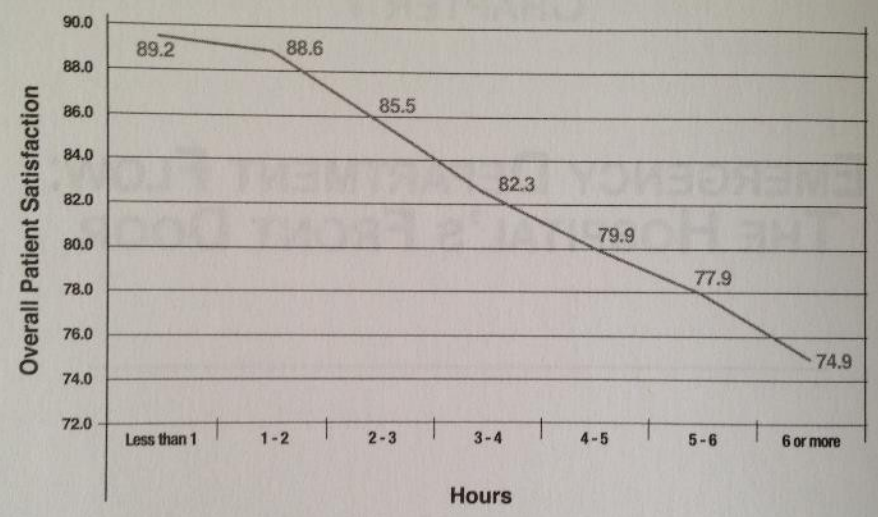
- **Acil servisler her gün daha fazla tam bir hastaneymiş gibi davranacağına…**
- **…hastaneler sanki bir acil servismiş gibi davranmalı!**
  - 5 gün değil 7 gün yatış-çıkış, poliklinikler çalışmalı
  - Hastalar koridorlarda yatmak zorunda kalacaksa bu acil servisle sınırlanmamalı, tüm hastaneye yayılmalı

Teşekkürler

Yard. Doç. Dr. Haldun Akoğlu

Acilci.net
Serbest, Açık, Bilimsel Acil Tıp

Figure 7.1: Patient Satisfaction by Time Spent in ED



Represents the experiences of 1,524,726 patients treated at 1,656 EDs nationwide between January 1 and December 31, 2007

Source: Press-Ganey ED Pulse Report 2008

Figure 8.4: WellSpan Hospital's Patient-Flow Zone System

"Day of" Early Warning: WellSpan York Hospital

Green Zone	Yellow Zone	Red Zone
Definition: Availability (Combination of the following): ICU, Telemetry, Med/Surg: Beds available to meet expected demand Patients in ED Waiting Room <10 Patients in ED Hallway: 0	**Definition:** Availability (Combination of the following): ICU: 4 beds Telemetry: Patients waiting >4 hours Med/Surg: Patients waiting >4 hours Patients in ED Waiting room: 10-15 or any patient with an ESI of 2 Patients in ED Hallway: 1-5	**Definition:** Availability (Combination of the following): ICU: 0 beds with Gridlock Telemetry: EAU/ED patients on hold >6 hours Med/Surg: EAU/ED patients on hold >6 hours Patients in ED Waiting room: >15 or more than 1 patient with an ESI of 2 Patients in ED Hallway: >5 Two or more patients who meet trauma team criteria in main ED or in shock
Notify: Hall monitors reflect "green zone"	**Notify:** Clinical director on call Administrator on call OOP Dept Chairman/ Service Line Leader Directors of Imaging, Housekeeping, Lab, and Transport YHLT via email Update hall monitors to reflect "yellow zone" status	**Notify:** Clinical director on call President of the Medical Staff All staff - FYI screen Put notice of "Red Zone" status on power chart Update hall monitors to reflect "red zone" status

Figure 8.5: WellSpan York Hospital's Bed Capacity Guidelines

Green Zone	Yellow Zone	Red Zone
Actions: Conduct Bed Huddle Meeting at least every morning Care Management to work with Nurse Managers and Physicians to expedite discharges Prioritize Imaging and Lab tests for patients being admitted and discharged Administrative Coordinator (AC) has ultimate authority related to bed placement including all transfers/ Direct Admissions must be approved by the Administrative Coordinator "One hour rule" for physicians seeing patients in the ED is enforced Floor nurses must take call/fax report as soon as the bed is ready. Patient is sent immediately AC and Housekeeping Supervisor prioritize rooms to be cleaned	**Actions:** Provide bed status update at least every two hours in the ED and huddle if needed Staffing expectations are increased to reflect 100% occupancy Send additional RN/LRN staff to ED to care for admissions/holds Initiate Team Triage in ED Deploy additional transport staff to ED Deploy additional house-keeping to ED and/or inpatients units based on priority discharge beds Open overflow areas Relocate non-urgent ED patients back to the waiting room while awaiting results of diagnostic tests (to free up bed) Consider admit to LTAC Contact VNA to bring in additional resources to support early patient discharge/admission avoidance Care Managers initiate rapid discharge review process YH provide transportation for discharged patients who need it	**Actions:** Continue actions initiated during the Yellow Zone Consider the need to go on Divert Open additional overflow units/beds. Urgent Care Center extends hours of operation Set up and staff discharge holding area(s) Transfer ED patients who require admission to Gettysburg Hospital or Hanover Hospital if they are not on divert Physicians to conduct evening rounds as appropriate Notify NH/Rehab of need to discharge patients in the evening Evaluate the possibility of cancellation of scheduled, elective procedures and transfers. Assess elective volume of cases for next three days