

Coping with Crowding: Enhancing Work Flow to Reduce Hospital Crowding

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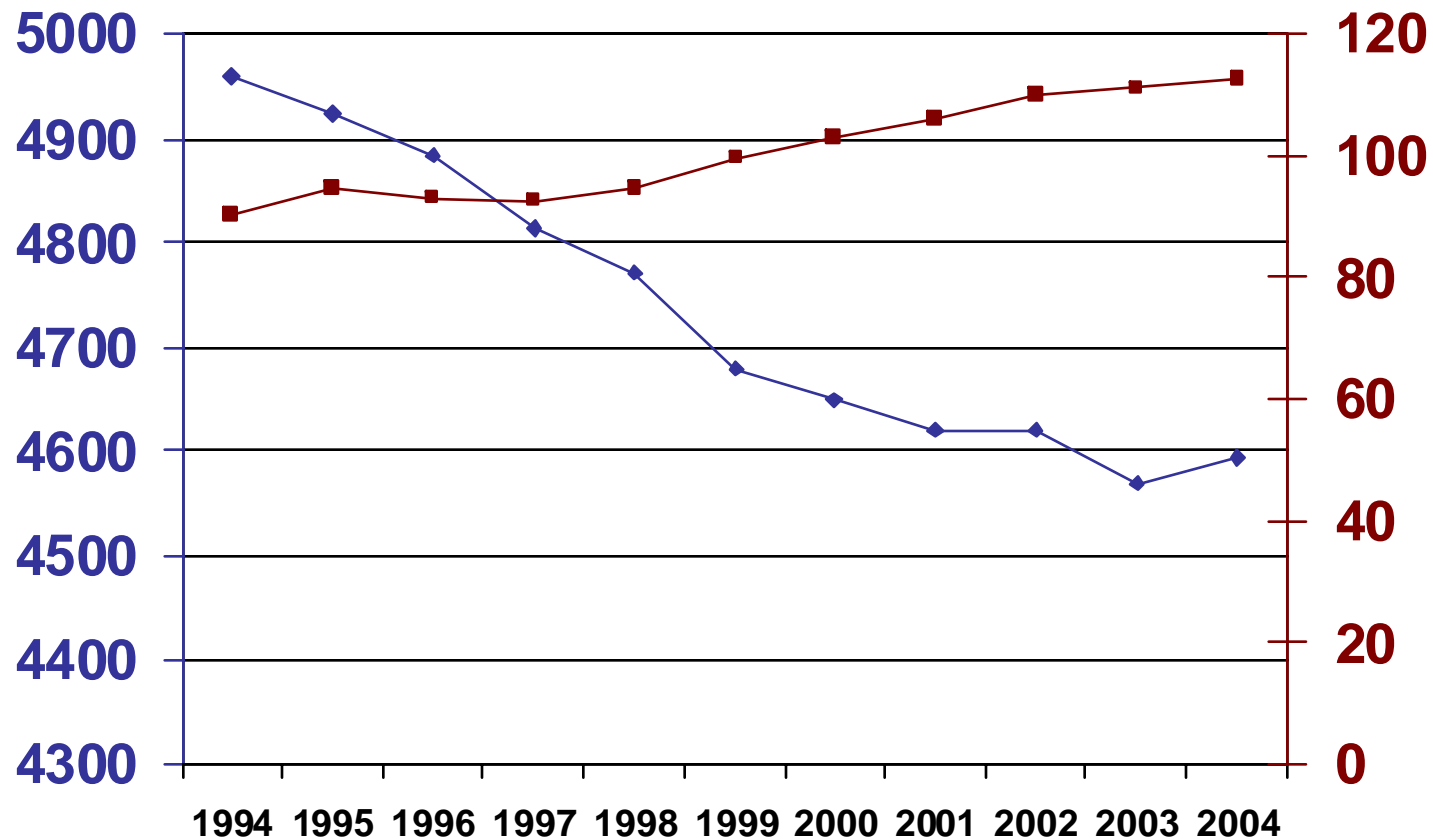
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Agenda

- ❑ Trends in ED use and capacity
- ❑ Impact of Crowding on Quality
- ❑ Domains of Quality Improvement for Patient Flow
- ❑ National Policy Landscape
- ❑ Resources

US Emergency Departments and Visits 1994 - 2004



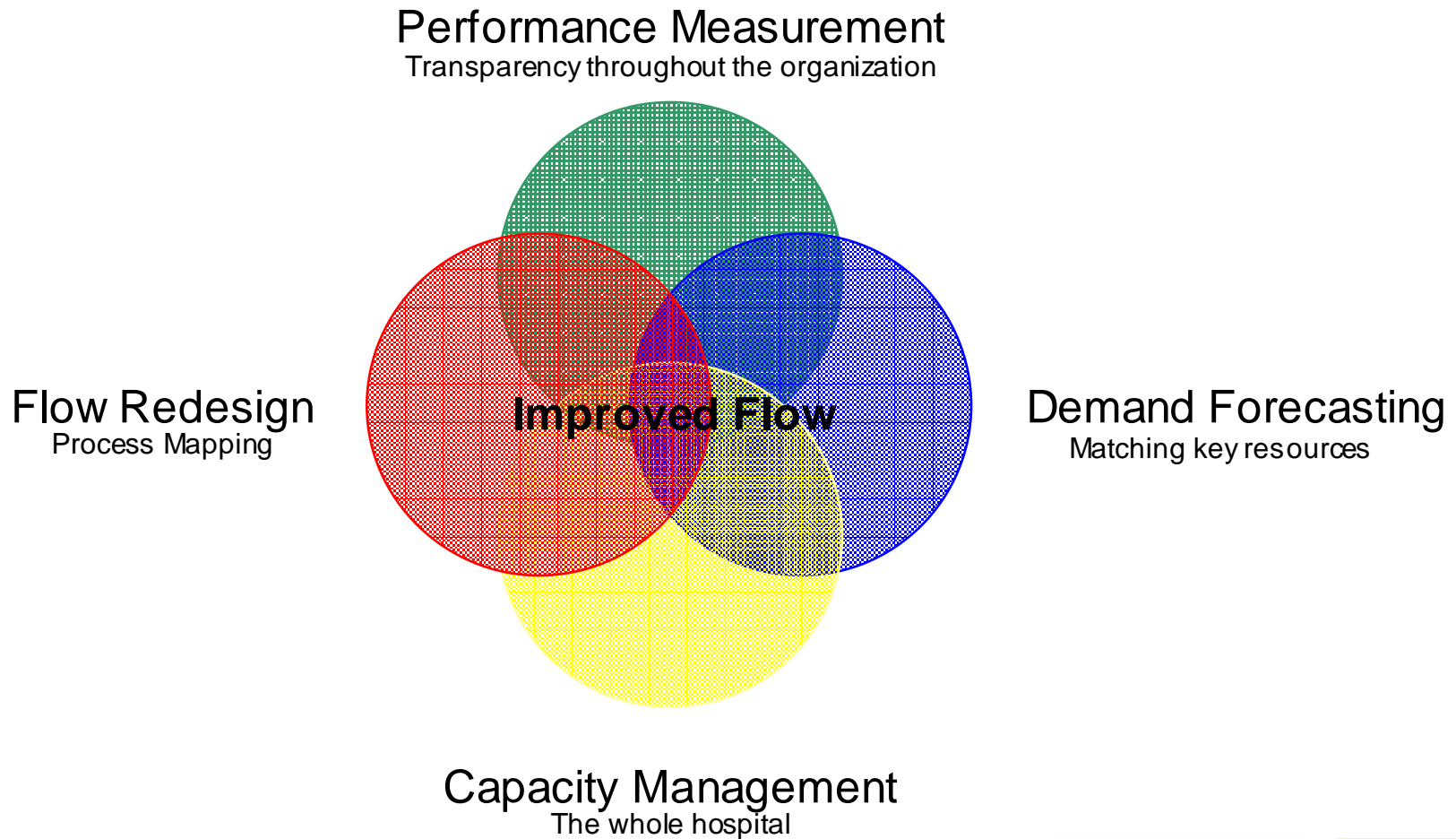
◆ Number of Emergency Departments ■ Number of Emergency Department Visits in Millions

Source: American Hospital Association, TrendWatch Chartbook 2006, Summary Data Tables – Utilization and Volume, Table 3.3, April 2006. Available at www.ahapolicyforum.org/ahapolicyforum/trendwatch/chartbook2006.html.

Crowding Impacts Quality of Care

- Three recent studies illustrates the association between ED crowding and quality of care
 - ED crowding is associated with poor care for patients with severe pain (Ann Emerg Med 2007)
 - As ED volume increases, ED patients with community-acquired pneumonia are less likely to receive timely antibiotic therapy (Ann Emerg Med 2007)
 - ED crowding is associated with delayed and nonreceipt of antibiotics in the ED for patients admitted with community-acquired pneumonia (Ann Emerg Med 2007)

Four Common Domains



Performance Measurement

- ❑ Measurement and assessment of the current state and tracking of the effects of any interventions are central to any improvement project.
- ❑ Performance measures are perhaps the most elemental and yet essential of the four domains related to work flow improvement.

Integrated Data Used to Create an Organization-wide Dashboard (LVH)

Table 1. Lehigh Valley Hospital (LVH) and Healthcare Network Capacity Dashboard*

Volume Indicators

LVH Admissions
LVH Length of Stay
ED Visits

Patient Flow/Demand Indicators

Discharges Before 11:00 A.M.
Discharge Bed SWAT Team Turnaround Time
ED Diversions in Hours
ED Time to Seen
OR Holds in Minutes
Pull Average Times—Time from when the clean bed is assigned until the patient is transferred into the bed
Transfer Center Acceptance Rate

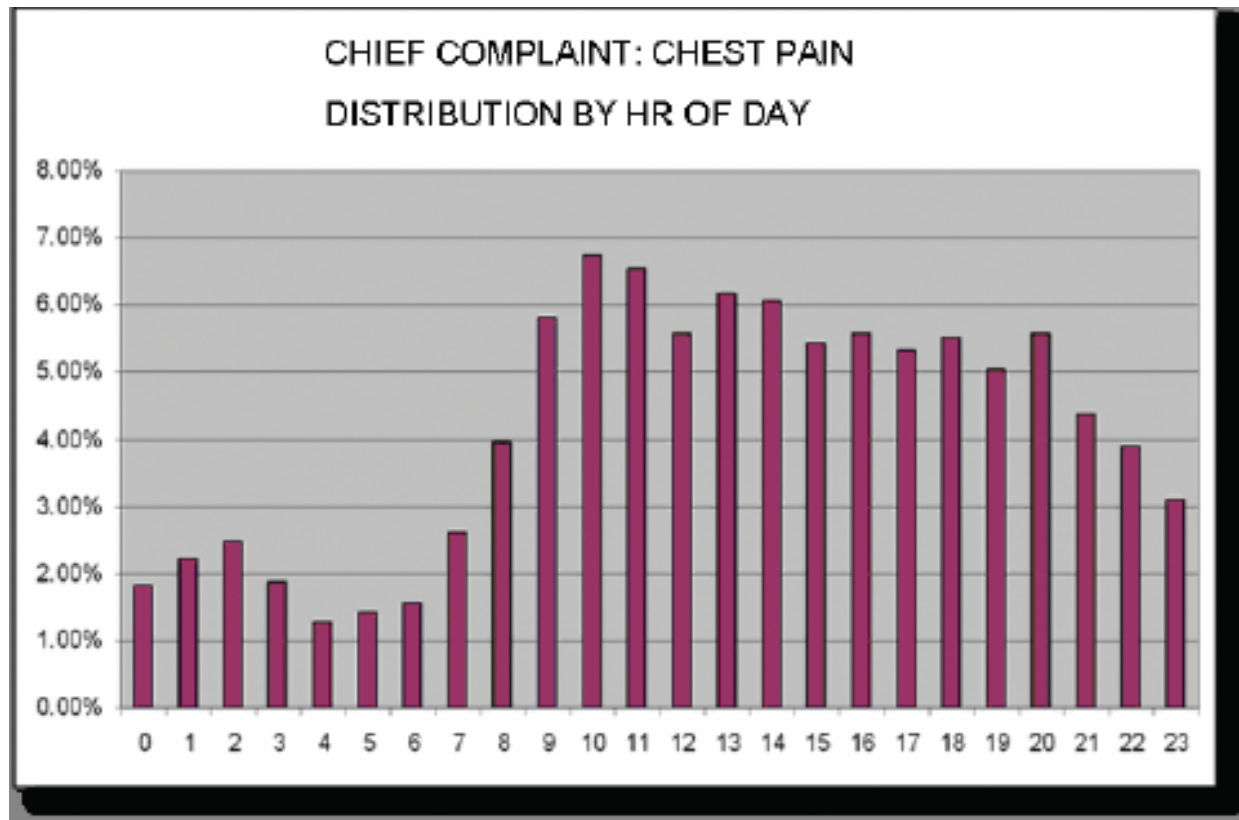
* Used with permission of Lehigh Valley Hospital and Healthcare Network. ED, emergency department; OR, operating room.

Source: Courtesy of Lisa Romano from Lehigh Valley Hospital; used in Wilson, MJ, Siegel, B, Sickler, D. (In-press). Coping with crowding: Enhancing work flow to reduce crowding. *Journal of Quality and Patient Safety*.

Demand Forecasting

- ❑ Effective work flow requires the ability to match key resources (for example, beds, staff, supplies) to demand.
- ❑ Changes in demand may be predicted (for example, by variation by time of day or season) allowing hospitals to anticipate periods of peak demand.

Chest Pain Distribution by Hour of the Day (LDS Hospital)



Source: Courtesy of Shari Welch from LDS Hospital; used in Wilson, MJ, Siegel, B, Sickler, D. (In-press). Coping with crowding: Enhancing work flow to reduce crowding. *Journal of Quality and Patient Safety*.

Flow Redesign

- ❑ Many patient flow initiatives incorporate change in the actual processes and pathways by which patients move through the ED and hospital.
- ❑ These initiatives often rely on “process mapping” that charts all the steps in the pathway for an ED patient to receive an intervention.
- ❑ Staff then seek to reduce the number of steps in each pathway by reducing redundancy and waits.

Code Heart Tracking Tool (Memorial Regional Hospital)

Code Heart Analysis Tool For ED and CVI Department Leaders

INITIAL EVALUATION- ED										PCI – CATH LAB						
MR#	Date	ED Time	EKG Time	Time Lapse	To CCL Time	Time Lapse	CCL Arrival	Time Lapse	Total ED Time	Sheath Time	Time Lapse	Balloon Time	Time Lapse	CCL Arrival to Balloon Time	CCL Open	Door to Balloon Time
				Goal (10")		Goal (35")		Goal (15")	Goal (60")		Goal (15")		Goal (45")	Goal (60")		Goal (120")

Synopsis:

Delays:

Department Leaders please fill in the following:
Barrier(s) Identified/Change(s) Needed:

Action Plan to Eliminate/Overcome Barrier(s):

Responsible Person(s):

Measuring Tool/Data Collection Process:

Signature _____
Date: _____

Source: Courtesy of Melinda Stibal from Memorial Regional Hospital; used in Wilson, MJ, Siegel, B, Sickler, D. (In-press). Coping with crowding: Enhancing work flow to reduce crowding. *Journal of Quality and Patient Safety*.

Capacity Management

- ❑ These initiatives are conducted in recognition of the reality that overall hospital capacity has a direct effect on ED crowding.
- ❑ Capacity management initiatives are conducted in recognition that all hospital departments must address crowding.

Full Capacity Protocol Excerpt (Stony Brook University Hospital)

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.

Source: Courtesy of Peter Viccellio from Stony Brook University Hospital; used in Wilson, MJ, Siegel, B, Sickler, D. (In-press). Coping with crowding: Enhancing work flow to reduce crowding. *Journal of Quality and Patient Safety*.

National Policy Landscape for Crowding

Joint Commission Standard (LD.3.15 effective 1/2005)

- *“The leaders develop and implement plans to identify and mitigate impediments to efficient patient flow throughout the hospital.”*

ED Benchmarking Alliance

- Created a consensus statement that identified and defined standard performance measures related to patient flow

CMS Oklahoma QIO

- Reviewing and discussing prospective ED measures; determining terminology and definitions of data collection tools; and implementing the measures to test effectiveness.

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“I mean, people have access to health care in America. After all, you just go to an emergency room.”

- President George W. Bush,
July 10, 2007