Public Policy Forum
Impact of Emergency Department Use on the Health Care System in Maryland

Pamela W. Barclay
Director, Center for Hospital Services
Maryland Health Care Commission

University of Maryland Baltimore County

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Overview: ED Crowding

- **Trends in Maryland Hospital Emergency Department Utilization: An Analysis of Issues and Recommended Strategies to Address Crowding- Issued 2002**

- **Renewed Focus on ED Crowding**
  - **Maryland**
    - **Baltimore City Task Force**
    - **Maryland Patient Safety Center ED Collaborative**
    - **Maryland ED Overcrowding Leadership Summit**
  - **National**
    - **RWJ Foundation's Urgent Matters Project**
    - **IOM Report**

- **2006 Joint Chairmen's Report (JCR)**
  - **Use of Maryland Hospital Emergency Departments: An Update and Recommended Strategies to Address Crowding-Issued January 2007**

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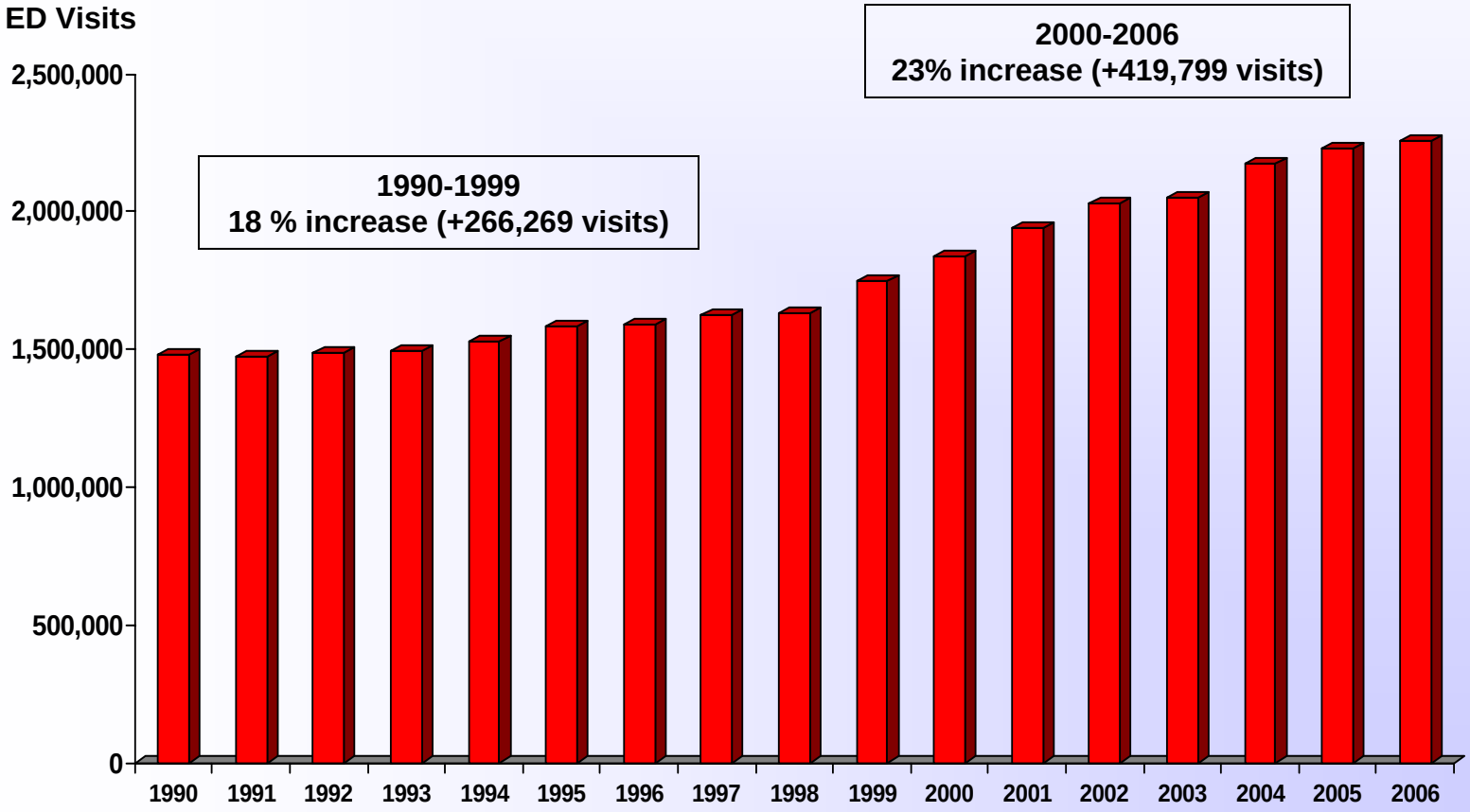
There were about 2.3 million visits to Maryland hospital emergency departments in 2006.

Trends in Emergency Department Visits: Maryland, Fiscal Years 1990-2006



Source: Maryland Health Care Commission (Data reported is based on the HSCRC Financial Data Base, Fiscal Years 1990-2006.)

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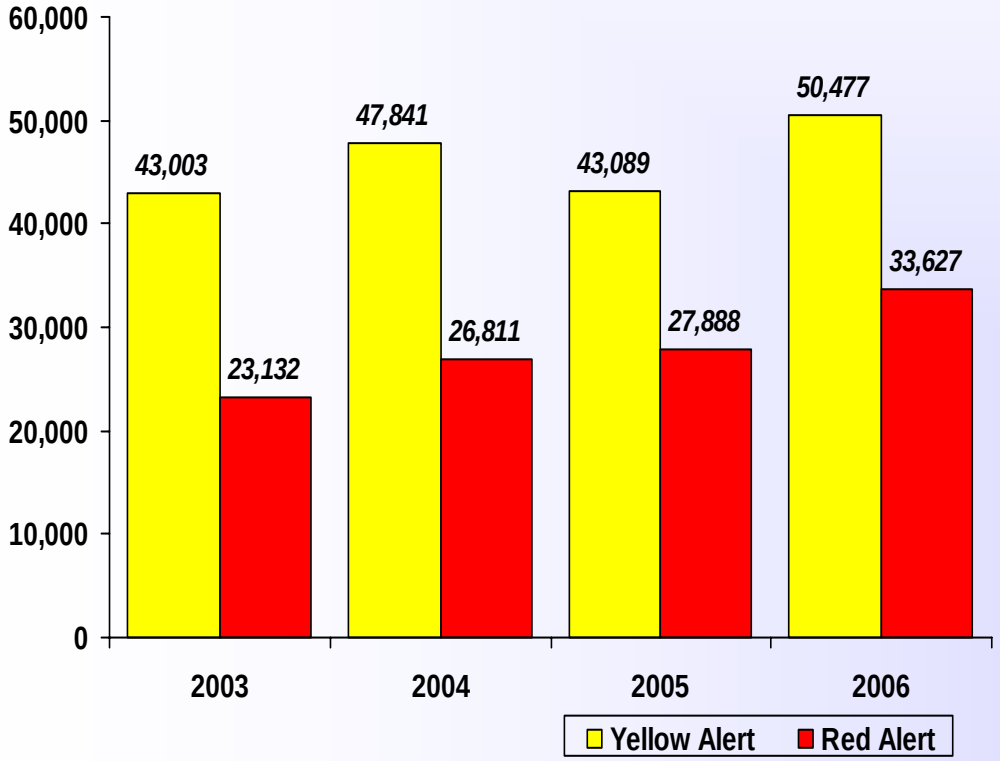
Maryland hospitals have reported increases in Yellow and Red Alert hours over the past four years. Yellow Alert hours increased from 9.8% to 11.5% of available hours; Red Alert hours increased from 5.3% to 7.7% of available hours.

Hours on Ambulance Diversion



- **Of the 46 hospital EDs in Maryland, only 3 had no alerts in 2006.**
- **Fifteen hospitals—located in Baltimore City/County and Metro Washington were on Yellow Alert status for more than 1,440 hours—equivalent to more than 60 days.**
- **Nine hospitals were on Red Alert status for more than 60 days.**

Source: Maryland Health Care Commission (Data reported is from the County Alert Tracking System maintained by MIEMSS.)

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How Maryland Compares with the United States

- **ED Visits 1990-2000**
  - Maryland +24.2%
  - United States +19.0%
- **ED Visits 2000-2004**
  - Maryland +18.1%
  - United States +9.2%
- **ED Visits Per 1,000 (2004)**
  - Maryland 389.0 (29th)
  - United States 385.3
- **Admissions from the ED (2004)**
  - Maryland 17.8%
  - United States 12.5%

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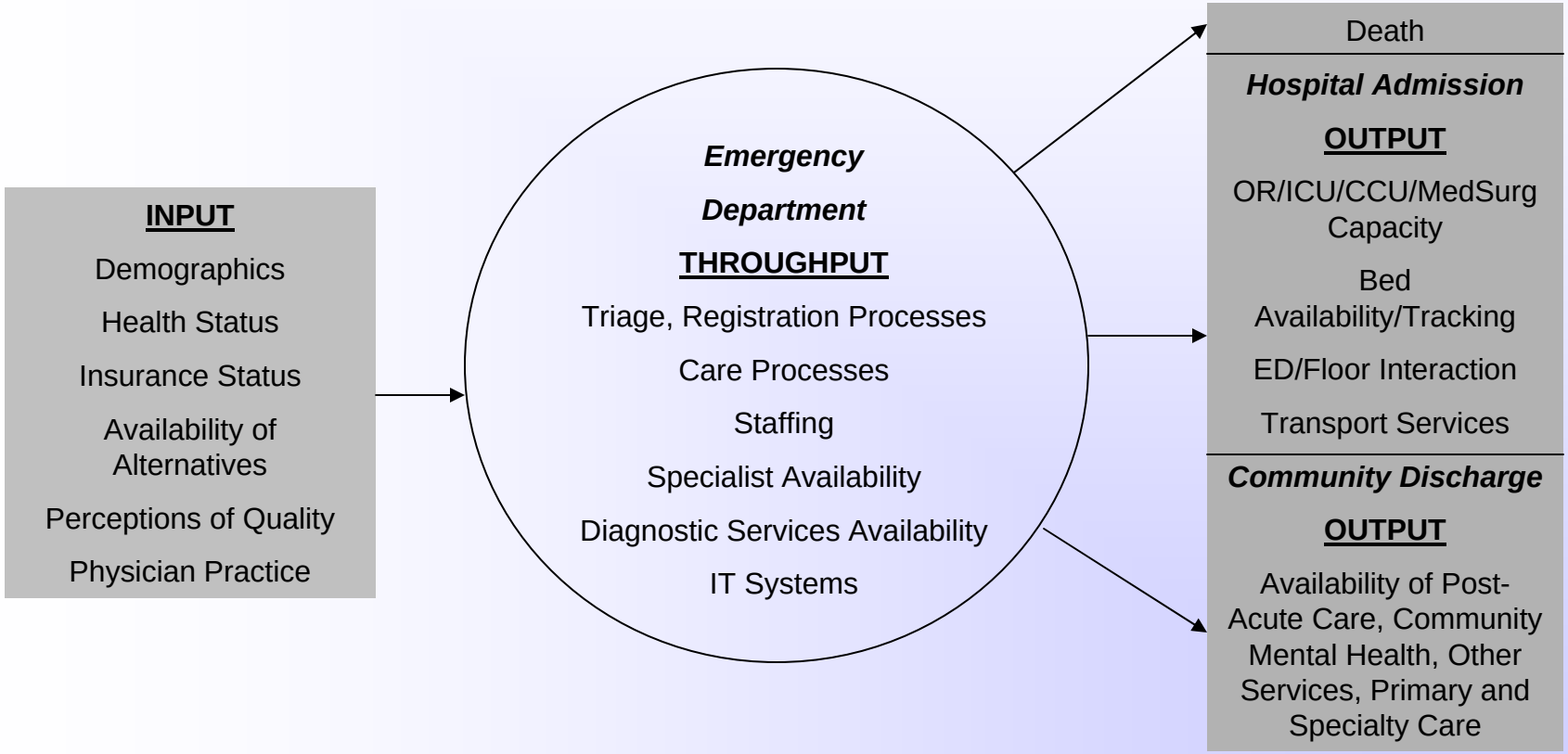
Framework for Analysis
Input/Throughput/Output Model of Emergency Department Patient Flow



Source: Urgent Matters, The George Washington University Medical Center, *Bursting at the Seams: Improving Patient Flow to Help America's Emergency Departments*, September 2004.

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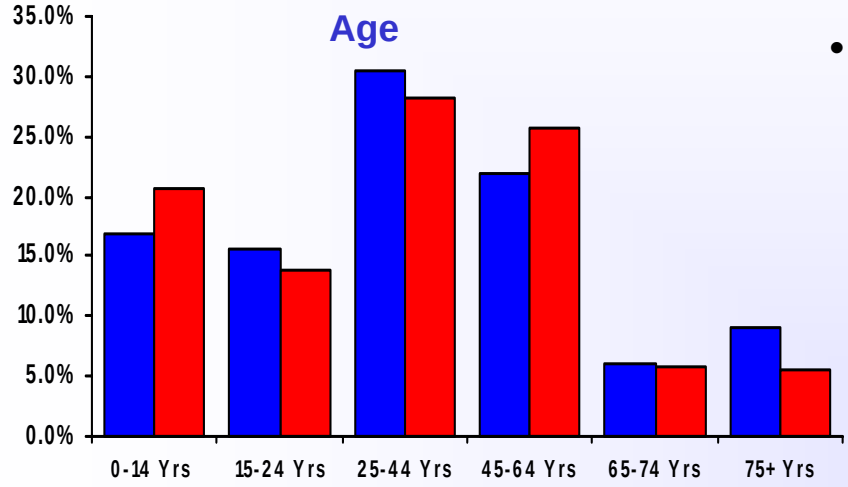
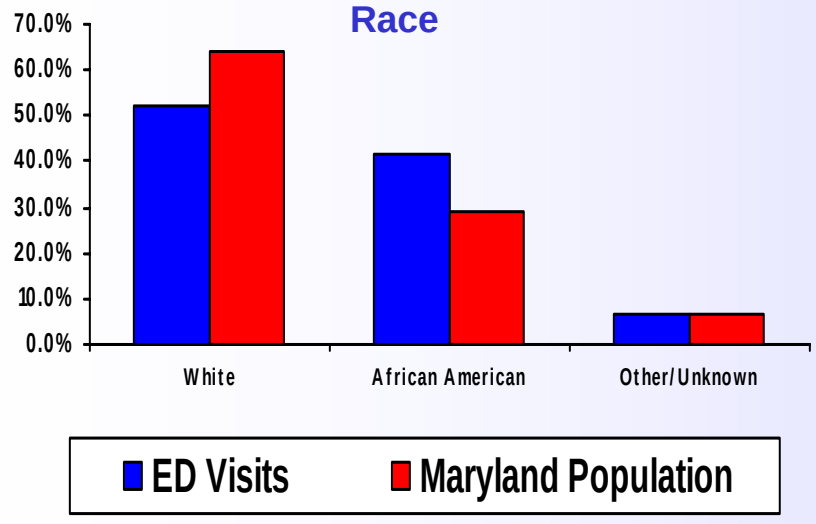
Demographic Characteristics of Emergency Department Users





- **Adolescents and adults 15-24 and 25-44 years and older persons 75 years + account for somewhat more ED use than their representation in the Maryland population.**
  - **15-24 years (14% of population; 15.5% ED visits)**
  - **25-44 Years (28% of population; 30.5 % ED visits)**
  - **75+ Years (6% of population; 9% of ED visits)**
- **Whites comprise 64% of Maryland's population but account for 52% of ED visits, while African Americans are 29% of the population and 41% of ED visits.**

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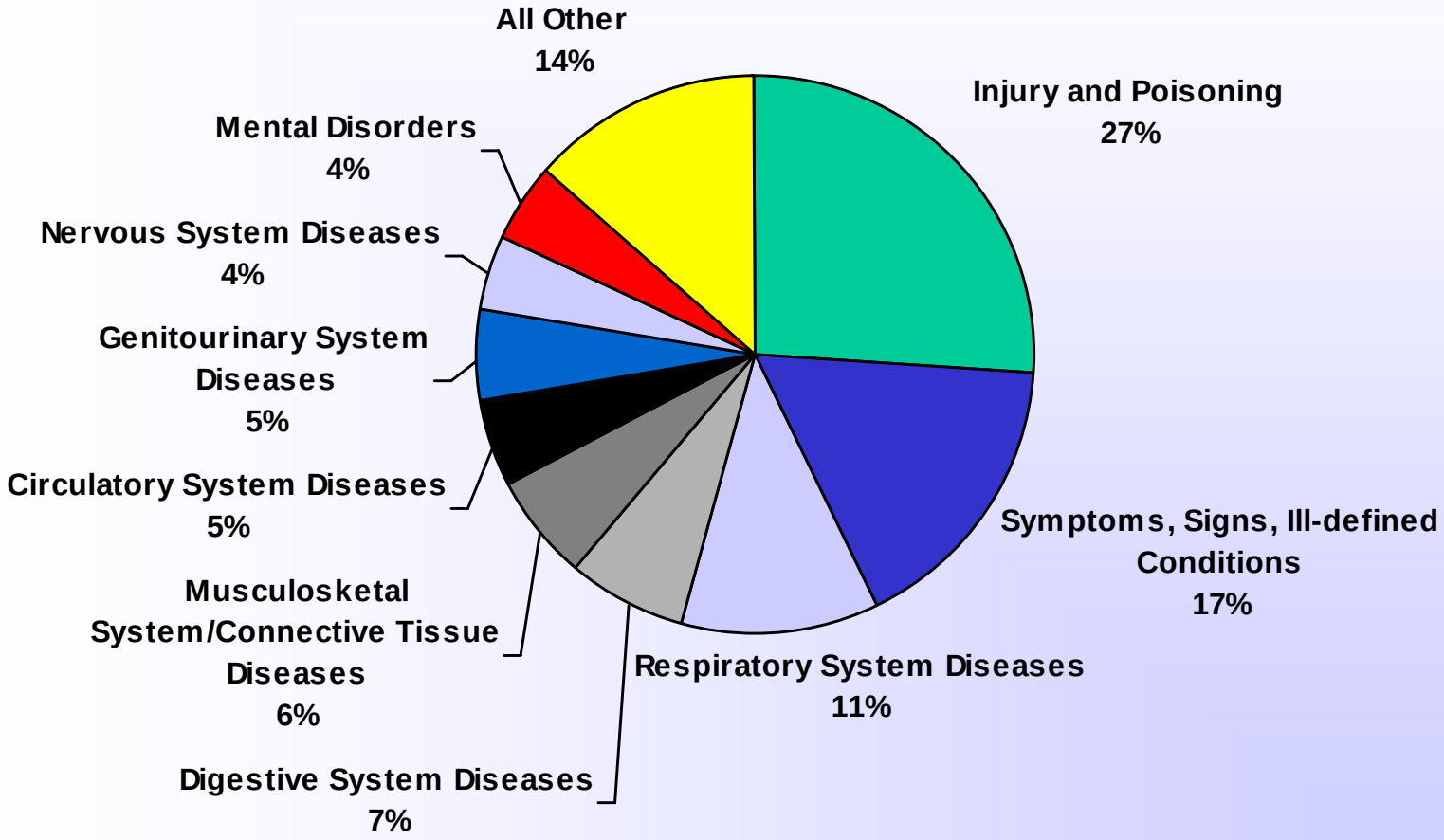
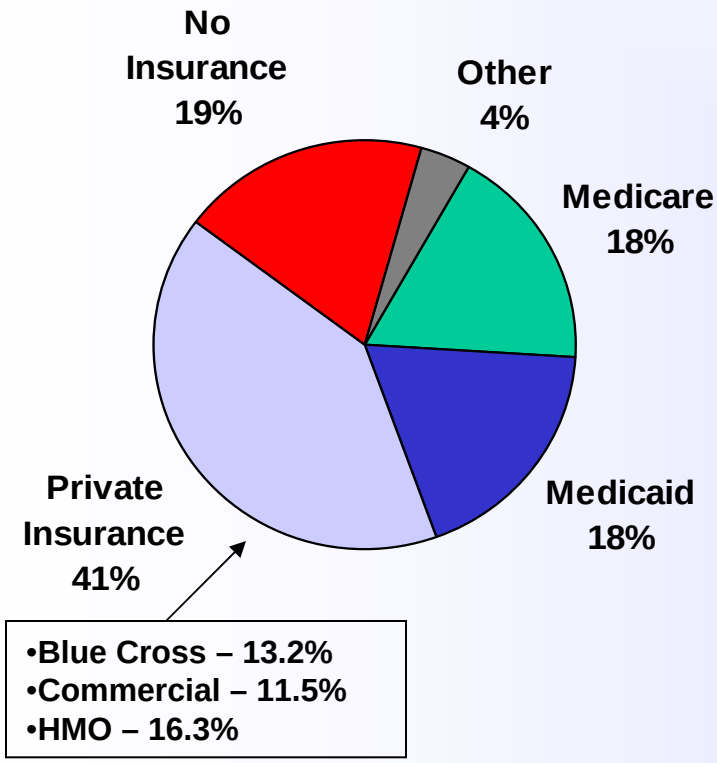
Over one-half of ED patients fall into one of three diagnostic categories: injury and poisoning; symptoms, signs, and ill-defined conditions; and respiratory system diseases.



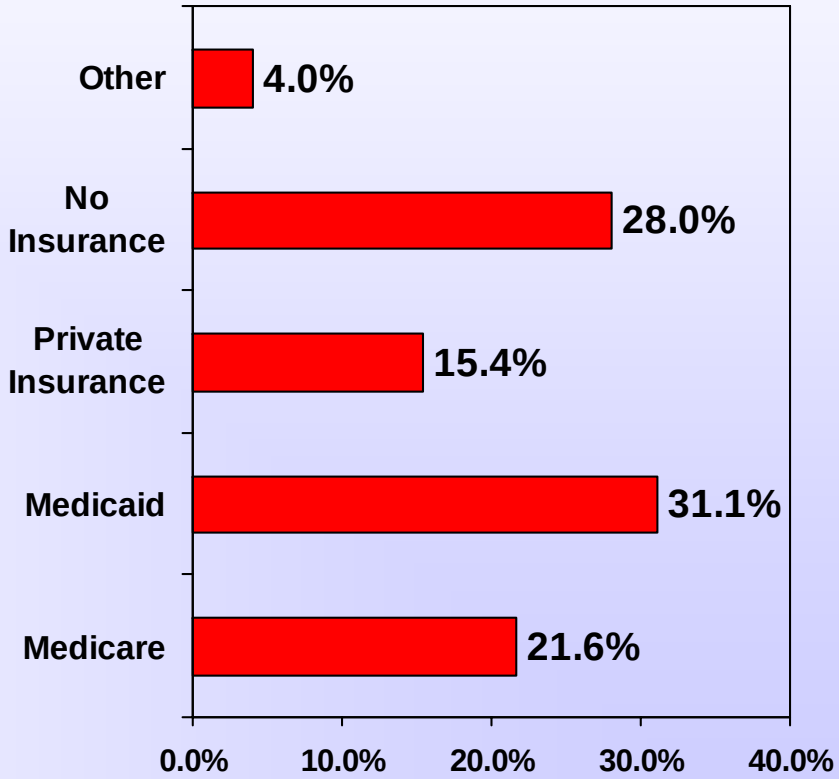
Source: Maryland Health Care Commission (Data reported is based on the Hospital Discharge Abstract Data Base and Hospital Ambulatory Care Data Set, 2005.)

About 41% of all ED visits are paid for by private insurance. Medicare and Medicaid each represent about 18% of ED visits. Patients with no insurance account for 19% of ED use. Taken together, privately insured individuals and Medicare beneficiaries account for 37% of the increase in ED use reported between 2002-2005. Medicaid enrollees represent about 31% of the increase and patients with no insurance account about 28% of the increase in ED visits.

Distribution of ED Visits by Payment Source: Maryland, 2005



Percent of Total Increase in ED Visits by Payment Source: Maryland, 2002-2005



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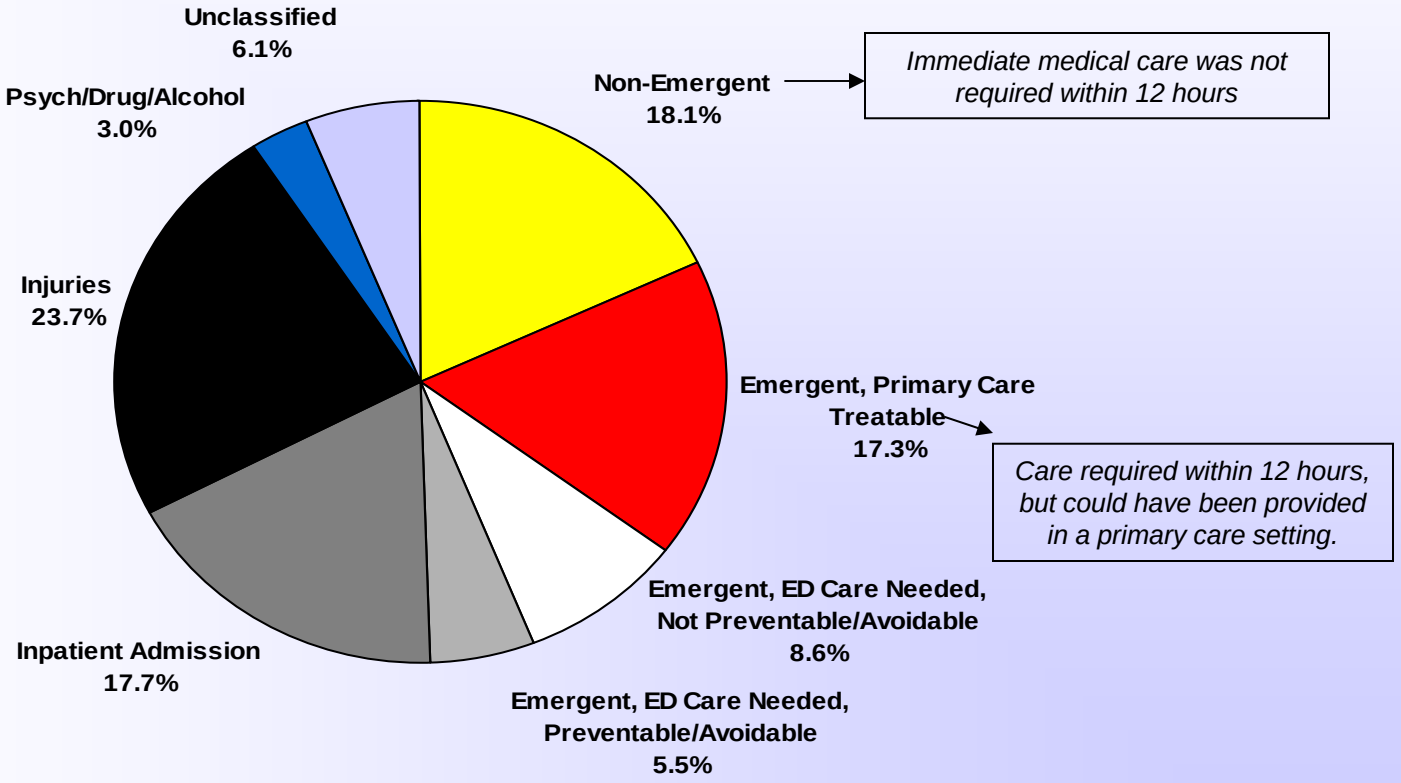
Overall, about one-third of all visits are classified as not requiring care in an ED. Within this one-third, 18.1% were considered non-emergent and 17.3% were considered emergent, primary care treatable.

Classification of Hospital Emergency Department Visits: Maryland, 2005



Source: Maryland Health Care Commission (The classification of emergency department visits is based on the methodology developed by John Billings and colleagues at the Robert F. Wagner School of Public Service, New York University. The emergency department visit data reported is from the Hospital Discharge Data Base and Hospital Ambulatory Care Data Base for January-December 2005.)

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While only a small proportion of Medicare visits are classified as non-emergent or emergent but primary care treatable, the pattern of use for all other payment sources and patients with no insurance is similar—with more than one-third of visits not requiring ED care.

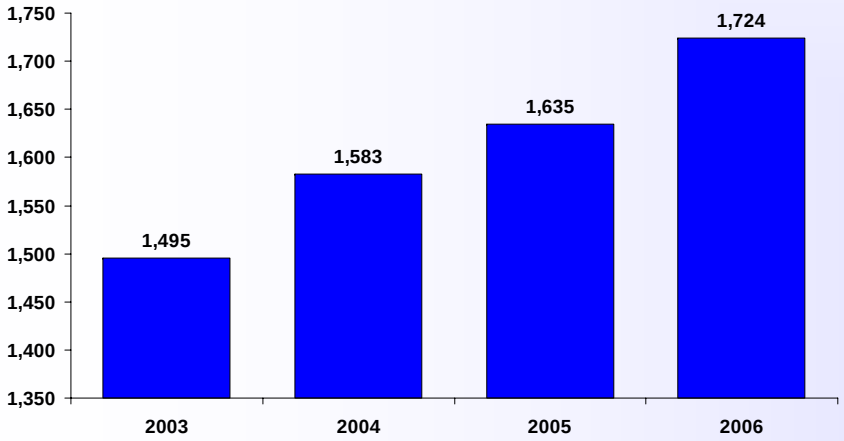
Classification of Emergency Department Visits by Payment Source: Maryland, 2005

Payment Source	Non-Emergent	Emergent, PC Treatable	Emergent, Preventable/ Avoidable	Emergent, Not Preventable/ Avoidable	Injuries, Inpatient Admission, Mental Health, Substance Abuse
Commercial/ Blue Cross	18.6%	17.7%	5.2%	9.6%	48.8%
Medicaid	21.3%	20.7%	7.3%	7.3%	43.4%
Medicare	10.3%	11.0%	4.1%	7.7%	66.9%
Private HMO	18.8%	18.9%	5.6%	10.5%	46.3%
No Insurance	21.7%	19.1%	6.1%	8.4%	44.8%
Other*/Unknown	13.5%	10.2%	2.7%	6.0%	67.6%
Total	**18.0%**	**17.2%**	**5.5%**	**8.6%**	**50.6%**

Source: The classification system is from Billings, J., et al. Emergency Department Use: The New York Story. The Commonwealth Fund Issue Brief, November 2000. Data reported is from HSCRC, Hospital Discharge Abstract Data Base and Hospital Ambulatory Care Data Set, CY 2005. *Other is defined as Worker's Compensation, Government Programs, and Title V.

Emergency Department Treatment Capacity

Emergency Department Treatment Capacity: Maryland, 2003-2006



Source: Maryland Health Care Commission, Supplemental Survey of Emergency Department Treatment Capacity, 2003-2006. (Data reported includes Bowie Health Center and Germantown Emergency Center.)

- **ED treatment spaces increased by 15.3% between 2003-2006.**
  - **46 of 47 acute general hospitals have EDs**
  - **Two freestanding emergency care centers affiliated with hospitals**
- **Additional ED treatment capacity will come on line as part of many hospital replacement and expansion projects approved by the Commission.**

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Hospital Inpatient Capacity

- 17-18% of Maryland ED visits result in admission for inpatient care
- 2010 Bed Need Forecast
  - Projected need for 487-1,060 additional medical-surgical beds (includes intensive and CCU beds)
  - No need for additional pediatric beds
- Almost 400 additional beds approved in recent CON projects in ten jurisdictions: Montgomery, Calvert, Charles, Prince George's, Anne Arundel, Baltimore, Harford, Howard, Cecil, and Wicomico Counties.
- Additional medical-surgical capacity will come on-line under the automatic licensure provision (140% rule) in three jurisdictions: Baltimore City, Baltimore County, and Carroll County.
- Conversion of semi-private to private rooms will increase "effective" medical-surgical capacity in many Maryland jurisdictions
- Shelled-in space authorized for additional expansion of medical-surgical capacity at hospitals in Harford and Anne Arundel Counties.

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Input Recommendations

INPUT

Demographics

Health Status

Insurance Status

Availability of Alternatives

Perceptions of Quality

Physician Practice

Recommendation 1. **Strategies should be developed and implemented to encourage the use of primary care and urgent care services in the community rather than emergency departments. *(Maryland Community Health Resources Commission with DHMH, Med-Chi, Mid-Atlantic Association of Community Health Centers)***

Recommendation 2. **Study access, quality of care and reimbursement issues associated with hospital and non-hospital based urgent care center models. *(MHCC and HSCRC)***

Recommendation 3. **During times of regional overcapacity, the MIEMSS Overload Mitigation Plan should be implemented. *(MIEMSS)***

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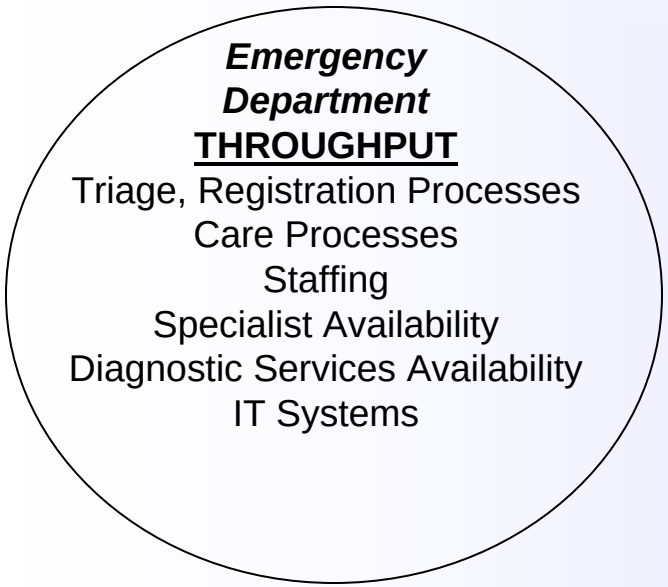
Throughput Recommendations



Recommendation 4. **Gather information on innovation to improve patient flow and ED design. Each Maryland hospital CEO should establish a hospital-wide multidisciplinary process to identify key factors that contribute to crowding and strategies to address crowding. *(Maryland Hospital Association and Hospitals)***

Recommendation 5. **Strengthen existing data sets to better support policy development (e.g., hour of ED arrival). *(MHCC, HSCRC, and MIEMSS)***

Recommendation 6. **Standardized measures of emergency department utilization and patient flow. *(Maryland Patient Safety Center, Maryland Chapter of ACEP, Hospitals, MHCC)***

Recommendation 7. **Update State Health Plan to include standards to guide the development of emergency department treatment space. *(MHCC)***

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Output Recommendations

Death

Hospital Admission

OUTPUT

OR/ICU/CCU/MedSurg Capacity

Bed Availability/Tracking

ED/Floor Interaction

Transport Services

Community Discharge

OUTPUT

Availability of Post-Acute Care, Community Mental Health, Other Services, Primary and Specialty Care

Recommendation 8. Consider the increase in admissions through the ED in State Health Plan update of inpatient bed need projections. *(MHCC)*

Recommendation 9.
Develop plan to guide future role and capacity of state psychiatric hospitals. *(DHMH)*

Develop projections of future bed need for acute inpatient psychiatric services. *(MHCC)*

http://mhcc.maryland.gov/hospital_services/acute/emergencyroom/index.aspx