Harris County Hospital ED Use Study

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Acknowledgements

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Harris County Hospital District (Ben Taub General and Lyndon B. Johnson General)
Memorial Hermann Health Care System (Hermann/Texas Medical Center, Southwest, Southeast, Northeast, Northwest, The Woodlands, Memorial City, Katy, and Sugar Land)
Hospital Corporation of America (Bayshore Medical Center, East Houston Regional Medical Center, and West Houston Medical Center)
Spring Branch Medical Center
St. Joseph Medical Center
Texas Children’s Hospital
CHRISTUS Gulf Coast (St. Catherine and St. John)
St. Luke’s hospital system (Episcopal Hospital and Community Medical Center)
Methodist Hospital System (Methodist/Texas Medical Center, San Jacinto Methodist, Methodist Willowbrook, and Methodist Sugar Land)
Data Elements on Each Visit

January 1, 2010 through December 31, 2010:

• Date and time of admission
• Primary and nine other discharge diagnoses
• Discharge date and time
• Payment source
• Patient age
• Patient gender
• Patient race/ethnicity
• Where discharged
• Method of transport
Objectives

• Determine the number, type, and rate of ED visits of Harris County residents to Harris County hospitals

• Determine the number, type, and rate of Primary Care-Related ED visits of Harris County residents to Harris County hospitals

• Determine the demographic and geographic characteristics of Harris County residents with ED and PCRED visits
Primary Care-Related ED Visits

Apply NYU ED Algorithm to estimate the proportion of patient visits in each of the following categories:

• **Non-Emergent**: Immediate treatment not required

• **Emergent-Primary Care Treatable**: Treatment was required but could have been provided in a primary care setting

• **Emergent-ED Care Needed-Preventable/Avoidable**: ED care required but the emergent condition was preventable

• **Emergent-ED Care Needed-Not Preventable/Avoidable**: ED care was required and could not have been prevented

• The first three are considered PCR
1,044,738 total ED visits were made to all 25 participating hospitals in 2010.

97.1% were made by residents of the eight county area.

84.1% were made by Harris County residents.

Represent 67.8% of all ED visits to all Harris County hospitals.

Using this percentage to extrapolate, an estimated 1,295,814 ED visits were made by Harris County residents to Harris County hospitals in 2010.

This compares to 1,287,710 in 2009 and 1,188,791 in 2008.
ED Visit Rates (pp. 5-6)

- 31.7 per 100 population in 2010 for Harris County residents, compared to 31.8 in 2009 and 30.0 in 2008
- Females – 34.3  Males – 27.6
- Age 0-17 – 33.7, 18-34 – 30.5, 35-64 – 26.16, >64 – 47.0
- Commercial – 18.4, Medicaid/CHIP – 61.24, Medicare – 50.6*, Uninsured – 26.4
- Asian, Am. Indian, Hisp – 8.7, 13.7, 25.3
- White, Black, Other – 28.6, 49.3, 51.2
41.0% of all ED visits by Harris County residents were PCR in 2010, the same as 2009, and slightly above the 2008 percentage of 39.1.

As a percentage of categorized visits, the 2010 figure was 80.0%, compared to 80.4% in 2009, and 79.0% in 2008.
Number of ED Visits by Category and Month
Hospital: Harris County Hospital, (N24) (2010)

ED Visit Type
- Nonemergent
- Em Primary Care Treatable
- Em ED Care Needed - Not Prev/Avoid
- Em ED Care Needed - Prev/Avoid
- Dischg Home/Self (Injury/Behavioral Hlth/Uncls.)
- Admitted

Footnote: The chart represents estimated proportions of ED visits based on ICD9 codes that comprise percentages of each visit type category.
Number of ED Visits by Category and Day of Week
Hospital: Harris County Hospital, (N24) (2010)

ED Visit Type
- Nonemergent
- Em Primary Care Treatable
- Em ED Care Needed - Prev/Avoid
- Em ED Care Needed - Not Prev/Avoid
- Dscg Home/Self (Injury/Behavioral Hlth/Uncls.)
- Admitted

Footnote: The chart represents estimated proportions of ED visits based on ICD9 codes that comprise percentages of each visit type category.
Number of ED Visits by Category and Hour of Day
Hospital: Harris County Hospital (N24) (2010)

ED Visit Type
- Nonemergent
- Em Primary Care Treatable
- Em ED Care Needed - Prev/Avoid
- Em ED Care Needed - Not Prev/Avoid
- Dscg Home/Self (Injury/Behavioral Hlth/Uncls.)
- Admitted

*footnote: The chart represents 'estimated proportions' of ED visits based on ICD9 codes that comprise percentages of each visit type category.
Number of ED Visits by Category and Hour of Day
Hospital: Harris County Hospital, (N24) (2010) Ages (0 <= Age <= 17)

ED Visit Type
- Nonemergent
- Em Primary Care Treatable
- Em ED Care Needed - Prev/Avoid
- Em ED Care Needed - Not Prev/Avoid
- Disg Home/Self (Injury/Behavioral Hlth/Unclsl)
- Admitted

*footnote: The chart represents 'estimated proportions' of ED visits based on ICD9 codes that comprise percentages of each visit type category.
Type of ED Visit by Payment Source

- Percentage Hospitalized
- Percentage Injury/BH/Unclass.
- Percentage ED Care Needed, Not Prev.
- Percentage Primary Care Related
• 15 hospitals from 2004 to 2010, 22 hospitals from 2005 to 2010

• Annual percentage of non-hospitalized visits that were PCR has fluctuated over the years with a slight downward trend, 2010 – 49.4%, 2009 – 51.5%, 2008 – 41.8%

• Uninsured no longer have the highest % PCRED visits. Surpassed by Medicaid/CHIP in 2010.

• Among race/ethnicity groups, Hispanics continue to have the highest % PCRED visits
PCRED Visits Over Time - Payer Mix (page 78)
Less than one in ten (8.5%) ED visits had a behavioral health diagnosis.

6.2% of ED visits were primarily for a medical problem and secondarily for a behavioral problem.

The number of ED visits with a primary diagnosis of a mental health or alcohol related problem has grown substantially (mental: 2,674 in 2008 vs. 3,474 in 2010; alcohol: 585 in 2008 vs. 1,649 in 2010)
The mean length of stay (measured in hours) for PCRED visits has declined slightly from 3.86 hours in 2008 to 3.54 hours in 2010. This is a difference of approximately 18-20 minutes.

Non hospitalized behavioral visits have longer LOS than PCRED visits (5.83 hours vs. 3.54 hours).
Transport (page 46)

- A little less than one in ten (8.6%) PCRED visits involved an ambulance transport to the ED.
- Slightly more than one fourth (27.5%) of ambulance transports to the ED eventually resulted in a hospitalization (Table 7c and Figure 20).
Applying national estimates of the unit cost of ED visits suggests that the greatest potential cost savings from diverting PCRED visits would be among adults age 18 to 44.
Estimated Cost of Primary Care Related Visits Among Uninsured Adults, Age 18 To 44
24 Hospitals in 2010

Please refer to Table 13 of this report for background information.

Legend
- Total:
  - $2,031 - $94,410
  - $94,411 - $177,804
  - $177,805 - $280,080
  - $280,081 - $405,844
  - $405,845 - $1,072,784
Conclusions (page 11)

- ED visits of Harris County residents in area hospitals grew at a slightly lower rate than the population in 2010 resulting in a minimal decrease in the population rate of ED visits.

- The PCRED visit percentage stayed about the same as 2009, but continues to indicate a slight downward trend over time.

- There was a decline in both total ED and PCRED visits in residents living inside the 610 loop, and an increase in PCRED visits in the Baytown and Katy areas of Harris County.

- The eastern side of Harris County had a high rate of PCRED visits among Medicaid and CHIP enrollees.

- Diversion of PCRED visits of uninsured adults age 18 to 44 has the largest potential for cost-savings.