

Hospital Emergency Department Characteristics Associated with Nontraumatic Dental Condition Visits in the United States: A National Perspective

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Background

- Nationally, emergency department (ED) visits have increased by 26%, and the number of EDs have decreased by 9-10% from 1994-2004
- Nationally, NTDC visits in EDs has increased at an annual rate of 4% and by 54% from 1997-2007
- Adults, racial and ethnic minorities are more likely to use ED for NTDCs
- Treatment at EDs for NTDCs is temporary without the option for continuity of care

Background

- Treatment at EDs for NTDCs has a public policy concern due to associated cost implications
- Inappropriate or continuous use of EDs for NTDC visits may contribute to overcrowding and increased waiting times for patients with urgent health conditions
- Nationally, ED use for NTDC visits has received limited attention, particularly as regards information on hospital emergency department characteristics associated with NTDC visits

Study Objective

- ◆ We examined hospital emergency department characteristics associated with receiving a prescription for NTDC visits in emergency departments in the United States

Methods

- Study design: Retrospective secondary data analysis
- Data source: National Hospital Ambulatory Medical Care Survey (NHAMCS) for 1997 to 2007
- Sample design: 112 geographic primary sampling units, approximately 400 EDs, over a 4 week reporting period
- Independent variables: age, ED provider, pain level designation, race/ethnicity, gender, region, payer type, reason for visit, year ED ownership
- Weighted response rate ranged from 85-93% over time

Methods

- NTDC were defined based on the following ICD-9-CM codes:
 - ◆ 521.0-521.9 (diseases of dental hard tissues of teeth), 522.0-522.9 (diseases of pulp and periapical tissues),
 - ◆ 523.0-523.9 (gingival and periodontal diseases), 525.3 (retained dental root),
 - ◆ 525.9 (unspecified disorder of the teeth and supporting structures), and 873.63 (internal structures of mouth, without broken tooth)

Statistical Analysis

- Descriptive statistics and multiple logistic regression was used to examine the odds of receiving a prescription in an ED for an NTDC visit
- All analyses were adjusted for the survey design and patient level factors
- SAS[©] software Version 9.2 (SAS Institute Inc, Cary, NC), was used for the analyses with the primary model fitted using Proc Surveylogistic

Results

- Nationally 16.4 million NTDC visits equivalent to 4080 per day occurred from 1997-2007 in the US
- Study population
 - ◆ Provider type: MDs 84% and staff : 8.4%
 - ◆ ED ownership: voluntary non-profit: 71%, Government, non-Federal: 18%
 - ◆ Region: South 41%, West 15.3%
 - ◆ Pain level: Severe 25%, moderate 21%, Mild 11%

Results

- Overall, 86.6% of patients received a prescription
- Proportion receiving any medication:
 - ◆ *Provider: MD 87.6%
 - ◆ ED ownership: Voluntary non-profit 87%, government, non-federal=85%
 - ◆ *Pain assignment: severe pain : 94.3 % , moderate 89%
 - ◆ Region: South 88%, West 88%

Results

- Compared to NTDC visits with a severe pain level, those reporting mild or moderate pain had significantly lower odds of receiving medication (OR = 0.4 and 0.6)
- Compared to NTDC visits with a dental reason, those with a non-dental reason for visit had significantly lower odds of receiving medication (OR=0.65)

Results

- The odds of receiving medication increased over the study period (OR=1.06/year)
- Race/ethnicity, ED ownership, region and ED provider type was not associated with receiving a prescription for medication for NTDC visits.

Conclusions

Nationally,

- 4080 NTDC visits occur per day or 170 per hour
- pain level was associated with receiving medications for NDTC visits
- dental reason for visits was associated with receiving medication for NTDC visits.

Implications

- These findings underscore the need for improved access to regular dental care for racial/ethnic minorities which could be achieved through
 - ◆ Improved dental public health policy and programs
 - ◆ Targeted distribution of dental providers to areas of high need
 - ◆ Establishment of after hours clinics staffed by dental health providers