Congestive Heart Failure Gap Analysis. Population Perspectives from Lake County, IL, USA

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Objective: In this study we performed congestive heart failure (CHF) gap analysis for the residents of Lake County, IL based on the hospital discharge data collected between 2001-2009. Methods: The hospital discharge data between 2001-2009 for primary diagnosis of CHF was analyzed. All patients (< 4 yr to > 85yr) were categorized in 10 age groups and comparative analysis was performed. Patient cases for systolic and diastolic CHF were identified using ICD-9 codes for systolic and diastolic heart failures. Results: N = 827,355 discharge records were screened. Overall there were N = 15,299 cases that were discharged with the primary diagnosis of systolic CHF reflecting a crude rate of 1.8%. The reported rate by the AHQR for state of IL in 2006 was 501.9 /+/- 2.2 cases. There were N = 7851 female and N=7448 male cases. Age adjusted rate per 100,000 patients was 956.6 /+/- 0.09 cases. There were N= 1350 cases of diastolic heart failure i.e. an age adjusted rate of 71.48 /+/- 2.24 cases (crude rate of 17 per 100,000). Death rate was from 2 to 5 days. Analysis of residential zip codes indicates one suburb with a high percentage of Hispanics and blacks with the highest reported cases (Waukegan = 1557 cases). The overall age adjusted systolic CHF rate in Waukegan was 1513.35 /+/- 36.47 cases per 100,000 which is significantly greater than the average calculated rate for residents of Lake County [OR=1.38 (1.30-1.47), P<0.001]. Conclusions: Lake County data suggest a higher rate of age-adjusted discharge rate for CHF in parts of Lake County, IL, USA with a high % of Hispanic and black population.

Prevalence of Hypertension in Amassoma, Southern Ijaw, Bayelsa State, Nigeria

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Objective: Hypertension is a public health problem worldwide, but the prevalence in Amassoma, which hosts the Niger Delta University, is not known. The objective of the study was to investigate the prevalence of hypertension in the locality and the extent of control in diagnosed cases. Methods: Four hundred adults selected through stratified sampling across the various compounds called “AMA” and aged 20 years and above were included. It took place in between February and May 2011. It involves interviewer administered questionnaires on demographics, predisposing factors and relevant medication history and measurement of respondents' blood pressure (BP) (on two separate occasions), weight and height. Graphics, predisposing factors and relevant medication history and measurement were performed from February and May 2011. It involves interviewer administered questionnaires on demographics, predisposing factors and relevant medication history and measurement of respondents' blood pressure (BP) (on two separate occasions), weight and height. Results: Majority of respondents were female. Almost half of respondents (46.5%) had their BP in pre-hypertensive stage (120-139/80-89 mmHg). The prevalence rate among 40 years (n=55) were on any form of drug or the other. Another 23.5% had their BP in 160/100 mmHg) in 3.5% (14). About half (51.0%) of previously diagnosed cases hypertension was that of Stage I (140-159/90-99mmHg) in 11.5% (46) and Stage II (160-199/100-109 mmHg) in 4.1% (17) of the respondents. The overall age-adjusted HTN rate in Waukegan was 279.2 /+/- 15.5% which is comparable to IL data - an average of 2.6 days. Analysis of data based on residential zip codes indicates 13 suburbs with a high percentage of Hispanics and blacks with the highest reported cases (Waukegan = 243 cases, Zion = 102 cases, North Chicago = 108 cases). Waukegan has greater than 50% hispanic (70% Mexican heritage). The overall age-adjusted HTN rate in Waukegan was 279.2 /+/- 19.11 cases per 100,000 which is significantly greater than the average calculated rate for either males or females in the lake county [OR=1.42 (4.84-8.3), P<0.001; OR-boys (12-17) = 3.98, P=0.022; OR-girls (12-17) = 9.8, P=0.001]. Conclusions: This data suggest a significantly higher age rate of adjusted discharge rate for HTN in parts of Lake County, IL, USA that have a high % of Hispanic and black population.

Survival to Discharge after Cardiac Arrest in a Pediatric Population: Results from the Kids’ Inpatient Database, 2003-2009 in the United States

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Objectives: About 16,000 children suffer a cardiac arrest (CA) in the US each year. Children having CA in an inpatient setting experience a lower death rate than children having CA outside the hospital. The objectives of this study were to: 1) describe the inpatient CA pediatric population, 2) determine the primary cause of hospital admission for these patients and 3) determine if specific type of hospital in which the patient was treated impacted survival post CA. Methods: Discharges for children aged 0-20 were selected from the Kids’ Inpatient Database (KID) for the years 2003-2006 and 2009 if a primary or secondary diagnosis was identified with ICD-9 code 427.5 (CA). Frequencies of discharges with CA were calculated and stratified by various patient and hospital characteristics, including Major Diagnostic Code (MDC) to determine the primary cause for the hospital admission and hospital type. Hospital type was classified by the National Association of Children’s Hospitals and Related Institutions (NACHRI) to be a children’s hospital, a children’s unit in a general hospital, or a non-children’s hospital. Results: The rate of death in pediatric hospitalizations declined from 66.46% in 2003 to 52.73% in 2009. The most common admission diagnoses involved the circulatory system (about 27% each year), injuries from poison and toxic effects of drugs (about 10% each year), and the respiratory system (16%, 18%, and 19% for 2003, 2006, and 2009 respectively). Although the overall death rate decreased from 2003-2009, the rate of decline was greater for both children’s hospitals and children’s units in general hospitals. Whereas the rate declined from 66% to 57% for non-children’s hospitals from 2003-2009, the rate declined from 64% to 51% for children’s hospitals. Conclusions: The pediatric death rate is high in an inpatient setting. Between the years 2003-2009, however, the death rate has declined, especially in pediatric hospitals.

Using Risk-Adjusted Expected Event Rate to Evaluate Individual Hospital Quality Performance in Percutaneous Coronary Interventions (PCI)

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Objectives: Recent US healthcare legislation highlights the need to assess institutional performance relative to regional or national norms. The study described here uses a three-step methodology to assess risk-adjusted outcomes rates at the hospital level using observational data. It evaluates 4 regional hospital performance for inpatient PCI compared to all Premier hospitals. Methods: A total of 617,332 PCI patients from 324 hospitals between 2004 and 2009 were identified in the Premier Hospital Database. Clinical outcomes were Clinically Apparent Bleeding (CAB), defined by ICD-9 codes, and Inpatient Mortality (IM). Logistic models for each clinical outcome adjusted patient demographics, baseline comorbidity, disease status, and hospital variables. Estimated patient level probabilities were summed as the expected events for each hospital. Observed events divided by the expected events produced an Observed to Expected Ratio (OER). OER > 1 implies the risk adjusted hospital event rate is higher than expected. Results: The number of PCI patients for hospitals 1 through 4 were 1,747, 966, 990, and 309 respectively. Observed CAB rates (%) were 4.4, 8.0, 3.8, and 8.7, compared to an overall rate of 5.4% for all Premier hospitals. The CAB OERs were 1.09, 1.75, 0.98, and 1.04. Unadjusted IM rates (%) were 1.0, 1.0, 0.98, and 1.0. Overall Premier IM was 1.3%. Observed CAB for hospitals 2 and 4 were at least 48% higher than overall Premier. Post, however, risk adjustment, hospital 2 remained high while hospital 4 decreased to 1.04, similar to overall Premier. In contrast, the mortality OER for hospital 2 fell below the Premier benchmark despite its high observed rate. Conclusions: The OER provides a simple, methodologically sound approach to review outcomes. It allows subpopulations to have adjusted outcomes that can be compared to appropriate peer groups.

Missed and Delayed Diagnosis of Stroke in Emergency Department Patients with Headache or Dizziness

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