

EPI MONTHLY REPORT

FLORIDA DEPARTMENT OF HEALTH IN MIAMI-DADE COUNTY
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Inside the Issue

1

**Asthma-Related
ED Visits &
Hospitalizations in
Children**

5

**EDC-IS Influenza/
Respiratory Illness
Surveillance Report**

6

**Selected Reportable
Diseases/
Conditions in
October 2013**

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Asthma-Related Emergency Department Visits and Hospitalization among the Children under Age 18 in Miami-Dade County, 2007-2012

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Introduction

Asthma is one of the most common chronic pediatric diseases in the United States, affecting about 7 million children, and also common among adults- affecting 18.7 million adults. Each year asthma accounts for about 439,000 hospitalizations, 1.8 million emergency department visits, and more than 3,404 deaths nationwide. In the US the asthma prevalence rate increased from 7.3% in 2001 to 8.4% in 2010. Asthma prevalence is higher among children, females, blacks and multi-race persons, and those with family income below poverty. The purpose of this report is to describe asthma related Emergency Department (ED) visits and hospitalizations among children under age 18 with focus on demographic and geographic characteristics in Miami-Dade County between 2007 and 2012.

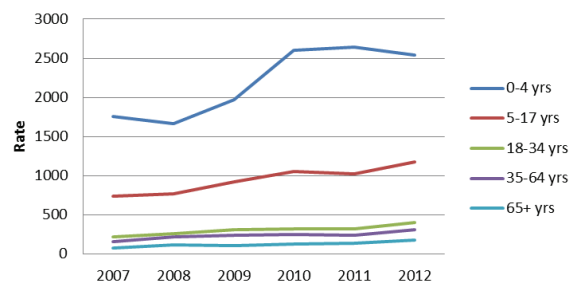
Methodology

The data for emergency department visits and hospital discharges was obtained from Florida Agency for Health Care Administration (AHCA). The data presented are for "asthma as principal diagnosis" of the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) code 493. SAS 9.3 and ArcGIS 10 were employed to analyze the data.

Results

Annually, there were around 12,000 and 4,500 asthma related ED visits and hospitalizations; 66% and 25% of them were children aged 0-17 years, respectively. Children, compared to other age groups, tend to have the highest rates of ED utilization for asthma. Children aged 0-4 years have the highest rate followed by the 5-17 years age group. Additionally, asthma related ED visit rates among children aged 0-4 and 5-17 years have increased from 1,763 and 741 in 2007 to 2,563 and 1,180 per 100,000 children in 2012, respectively. The asthma related ED visit rates slightly increased among all other age groups between 2007 and 2012 (Figure-1).

Figure-1 ED Visit Rate per 100,000 Population by Age Group, Miami-Dade County, 2007-2012



A substantial disparity in asthma related ED visits exists with race/ethnicity. Among the children aged 0-4 and 5-17 years, Non-Hispanic Blacks had the highest asthma related ED visit rate followed by Hispanic children (Figure-2 & 3).

EPI MONTHLY REPORT

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Figure-2 ED Visits per 100,000 Children Aged 0-4 years, Miami-Dade County, 2007-2012

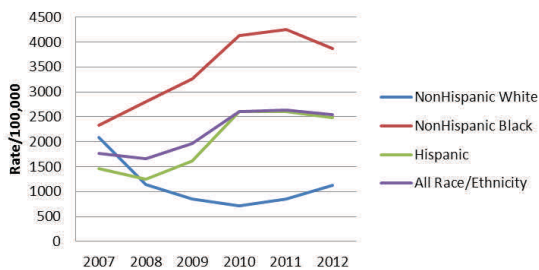


Figure-5 Median Cost (US Dollars) of ED Visit due to Asthma among Children, Miami-Dade County 2007-2012

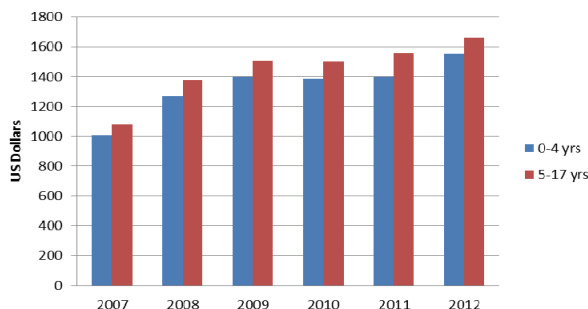


Figure-3 ED Visits per 100,000 Children Aged 5-17 years Miami-Dade County, 2007-2012

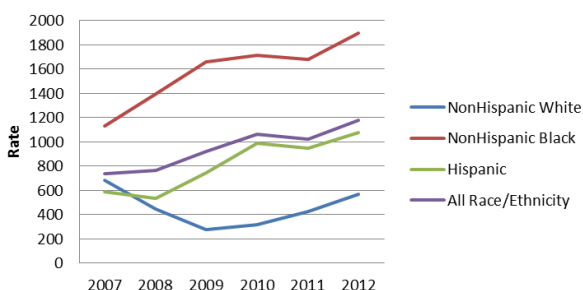
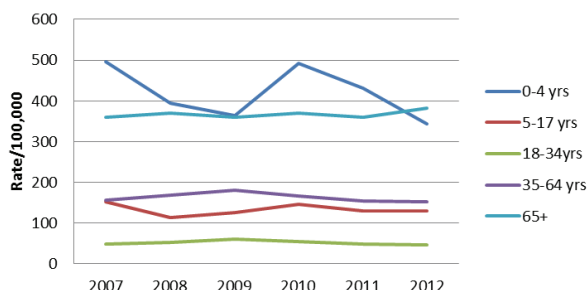


Figure-6 Hospitalization Rate per 100,000 Population by Age Group, Miami-Dade County, 2007-2012



Male children aged 0-4 had significantly higher emergency department visit rates for asthma compared to female children (1,525 vs. 939), but with age, the ED visit rate was higher among females compared to males (Figure-4). The median cost per ED visit has progressively increased from about 1,007 for 0-4 year olds and 1,078 for 5-17 year olds in 2007 to 1,552 and 1,663 in 2012, respectively (Figure-5). More than 76% of children with asthma related ED visits were covered by Medicaid or Medicaid Managed Care or KidCare, 15% of them were covered by commercial insurance, and 6% of them were self-payer.

Figure-6 displays the rate of hospitalization for asthma by age group between 2007 and 2012. The highest rates for asthma are found in children 0-4 years followed by elderly adults aged 65 and older. The young adults aged 18-34 years had the lowest rate. The asthma related hospitalization rates decreased from 496 and 152 in 2007 to 343 and 129 in 2012 among children aged 0-4 years and 5-17 years respectively (Figure-6). The Non-Hispanic Black children aged 0-4 and 5-17 years had highest hospitalization rate for Asthma during 2007-2012 (Figure-7 & 8).

Figure-4 ED Visits per 100,000 Population by Age and Sex, Miami-Dade County, 2007-2012

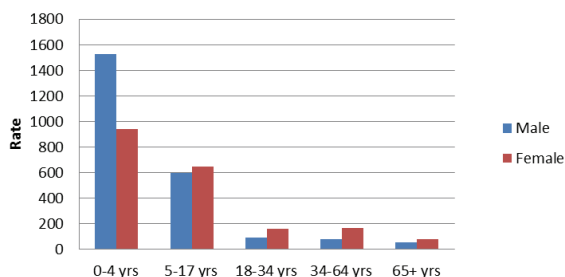
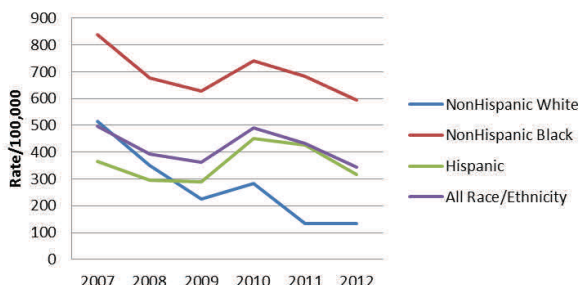


Figure-7 Hospitalization Rate per 100,000 Children Aged 0-4 years, Miami-Dade County, 2007-2012



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Figure-8 Hospitalization Rate per 100,000 Children Aged 5-17 years, Miami-Dade County, 2007-2012

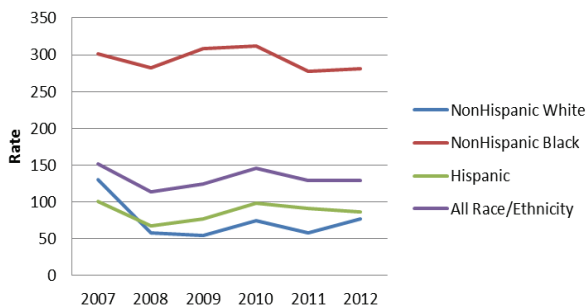


Figure-10 Median Cost (US Dollars) of Hospitalization due to Asthma among Children, Miami-Dade County 2007-2012

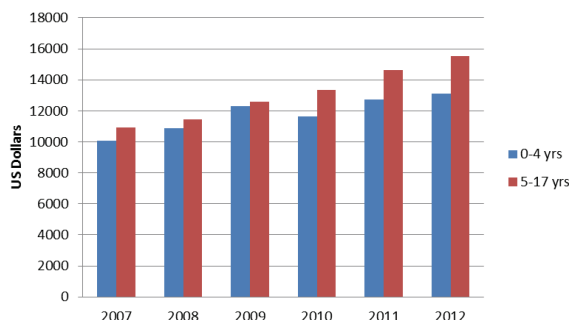
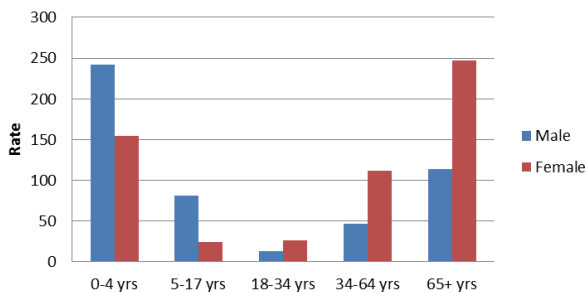


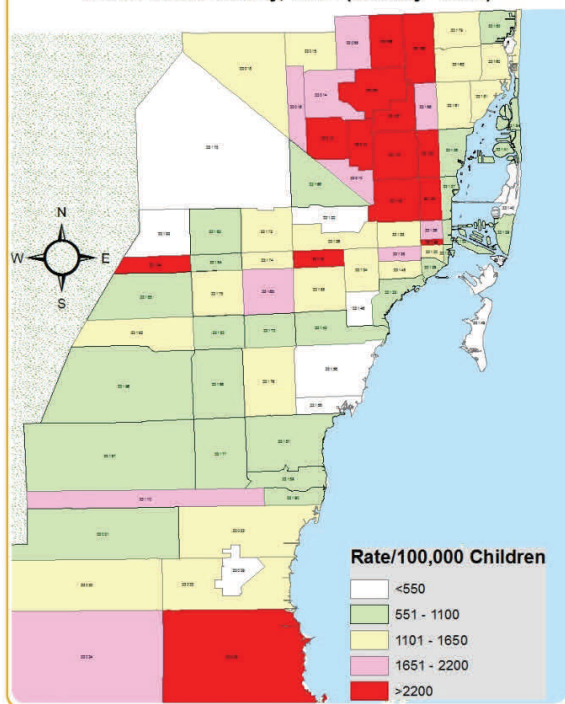
Figure-9 shows a crossover of asthma hospitalization rates by age and gender, in children more males are hospitalized for asthma, however in adults, more females are hospitalized for asthma. While the median days of hospitalization due to Asthma among children in Miami-Dade has remained the same (2 days) from 2007-2012, the median cost of hospitalization has progressively increased from about 10,047 for 0-4 year olds and 10,902 for 5-17 year olds in 2007 to 13,117 and 15,536, respectively (Figure-9). Seventy percent of children with asthma related hospitalization were covered by Medicaid or Medicaid Managed Care or KidCare, 27% of them were covered by commercial insurance, and 2% of them were self-payer.

Asthma related ED visit and hospitalization rates vary greatly by geographic area of the county. Maps depicting the ED visit and hospitalization rates of children aged 0-17 by zip code indicate the greatest incidence in the north corridor and far south of Miami-Dade County. In the southern part of the county, however, there were several zip codes with hospitalization rates higher than 240 per 100,000 (Map-1 & Map-2).

Figure-9 Hospitalization Rate per 100,000 Population by Age and Sex, Miami-Dade County, 2007-2012



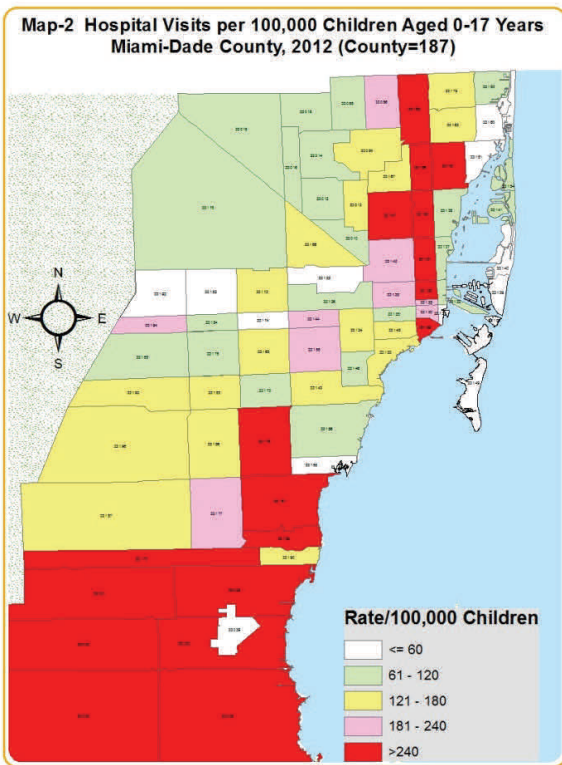
Map-1 ED Visits per 100,000 Children Aged 0-17 Years Miami-Dade County, 2012 (County=1552)



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Discussion

In Miami-Dade County, children aged 0-4 years, compared to other age groups, tend to have the highest rates of emergency department visits for asthma followed by children aged 5-17. And, children aged 0-4 years had higher hospitalization rates compared to other age group during 2007-2012. Non-Hispanic Blacks had the most striking disparity in the burden of asthma compared to non-Hispanic Whites.

Compared to the State of Florida's average level in 2011, Asthma related emergency room visit and hospitalization crude rates per 100,000 population are higher in Miami-Dade County (511 vs. 471 and 172 vs. 157 respectively). Among children aged 0-4, the 2011 Asthma related emergency room visit and hospitalization rates per 100,000 are 2,643 and 432 in Miami-Dade County, higher than Florida's average level of 1,687 and 396, respectively.

Asthma is a significant public health problem in Miami-Dade County, varying greatly by geographic area of the County.

Asthma related emergency department visits and hospitalizations are indicators of uncontrolled asthma. Asthma morbidity can be measured by the number of visits asthma sufferers make to the emergency department and/or hospitalization; these measures indicate the true burden of asthma for individuals whose condition is poorly controlled. The financial burden of asthma is considered preventable because many ED visits and some hospitalizations can be avoided with better access to primary care physicians, preventive medicine, and health education.

Asthma can be a life-threatening disease if not properly managed. Patient education is vital for those who suffer from asthma. Asthma control programs help the community to achieve better health and improved quality of life and to reduce the overall hardship that asthma puts on the workforce, healthcare system, and communities. Control programs can reduce hospitalizations, ED Visits and their associated costs. The Florida Department of Health in Miami-Dade County will continue to assess and monitor asthma prevalence in order to help guide future prevention efforts.

References

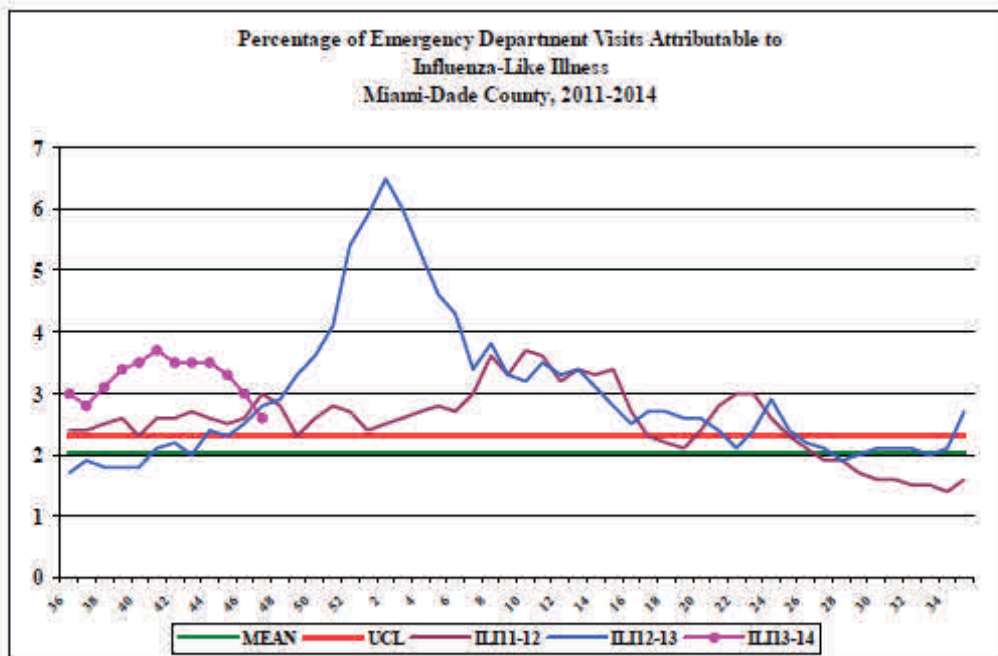
1. Akinbami LJ, Moorman JE, Bailey C, et al. Trends in asthma prevalence, health care use, and mortality in the United States, 2001-2010. NCHS data brief, no 94. Hyattsville, MD: National Center for Health Statistics. 2012.
2. Akinbami LJ, Moorman JE, Liu X. Asthma prevalence, health care use, and mortality: United States, 2005-2009. National health statistics reports; no 32. Hyattsville, MD: National Center for Health Statistics. 2011.
3. Florida Department of Health Asthma Program. Asthma Emergency Department Visits and Hospitalizations in Florida. http://www.floridahealth.gov/diseases-and-conditions/asthma/_documents/ed-hosp-factsheet2013.pdf. Accessed on Nov 10, 2013.
4. Missouri Department of Health and Senior Services. Asthma-Related Emergency Room Visits by Children Under Age 18 http://health.mo.gov/data/focus/pdf/FOCUS_May06.pdf. Accessed on Nov 22, 2013.

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Influenza-Like Illness, All Age



During this period, there were 22,112 ED visits; among them 583 (2.6%) were ILI. At the same week of last year, 2.8% of ED visits were ILI.

PARTICIPATE IN INFLUENZA SENTINEL PROVIDER SURVEILLANCE

Florida Department of Health in Miami-Dade County NEEDS Influenza Sentinel Providers!

Sentinel providers are key to the success of the Florida Department of Health's Influenza Surveillance System. Data reported by sentinel providers gives a picture of the influenza virus and ILI activity in the U.S. and Florida which can be used to guide prevention and control activities, vaccine strain selection, and patient care.

- Providers of any specialty, in any type of practice, are eligible to be sentinel providers.
- Most providers report that it takes **less than 30 minutes a week** to compile and report data on the total number of patients seen and the number of patients seen with influenza-like illness.
- Sentinel providers can submit specimens from a subset of patients to the state laboratory for virus isolation **free of charge**.

For more information, please contact
Lakisha Thomas at 305-470-5660.

TO REPORT ANY DISEASE AND FOR INFORMATION CALL:
Epidemiology, Disease Control & Immunization Services

Childhood Lead Poisoning Prevention Program305-470-6877
Hepatitis305-470-5536
Immunizations or outbreaks305-470-5660
HIV/AIDS Program305-470-6999
STD Program305-575-5430
Tuberculosis Program305- 575-5415
Immunization Service305-470-5660
To make an appointment.....786-845-0550

About the Epi Monthly Report

The Epi Monthly Report is a publication of the Florida Department of Health in Miami-Dade County: Epidemiology, Disease Control & Immunization Services. The publication serves a primary audience of physicians, nurses, and public health professionals. Articles published in the Epi Monthly Report may focus on quantitative research and analysis, program updates, field investigations, or provider education. For more information or to submit an article, contact Esther Bell at (305) 470-6918.



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Miami-Dade County Monthly Report Select Reportable Disease/Conditions October 2013

Diseases/Conditions	2013 Current Month	2013 Year to Date	2012 Year to Date	2011 Year to Date
HIV/AIDS				
AIDS*	56	619	487	617
HIV	122	1243	928	1105
STD				
Infectious Syphilis*	43	310	259	295
Chlamydia*	796	8404	7233	7238
Gonorrhea*	185	1986	1971	2047
TB				
Tuberculosis**	11	99	90	111
Epidemiology, Disease Control & Immunization Services				
Epidemiology				
Campylobacteriosis	15	298	297	371
Ciguatera Poisoning	2	22	19	17
Cryptosporidiosis	2	20	19	19
Cyclosporiasis	1	3	1	5
Dengue Fever	4	42	35	13
E. coli, O157:H7	0	6	5	14
E. coli, Non-O157	0	0	0	0
Encephalitis, West Nile Virus	0	0	0	0
Giardiasis, Acute	30	233	195	235
Influenza Novel Strain	0	0	0	0
Influenza, Pediatric Death	0	1	2	0
Legionellosis	1	21	16	16
Leptospirosis	0	0	0	0
Listeriosis	1	2	1	4
Lyme disease	0	6	7	2
Malaria	0	8	6	17
Meningitis (except aseptic)	2	29	18	28
Meningococcal Disease	0	15	13	14
Salmonellosis	72	506	493	481
Shigellosis	14	62	66	102
Streptococcus pneumoniae, Drug Resistant	7	73	62	75
Toxoplasmosis	1	1	3	0
Typhoid Fever	0	2	2	3
Vibriosis	0	10	3	1
West Nile Fever	0	0	0	1
Immunization Preventable Diseases				
Measles	0	0	0	0
Mumps	0	0	1	0
Pertussis	3	39	57	27
Rubella	0	0	0	0
Tetanus	0	0	0	0
Varicella	4	53	39	44
Hepatitis				
Hepatitis A	6	29	21	19
Hepatitis B (Acute)	1	14	17	4
Lead				
Lead Poisoning	5	78	72	113

*Data is provisional at the county level and is subject to edit checks by state and federal agencies.

** Data on tuberculosis are provisional at the county level.

