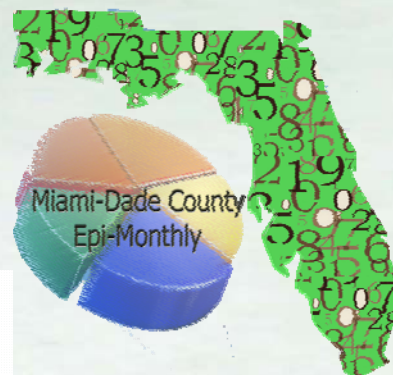


Epi Monthly Report



Utility of the Exposure Syndrome in ESSENCE

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Objective

To illustrate how the ESSENCE Exposure syndrome has been used to detect outbreaks and improve disease surveillance and reporting

Background

Miami-Dade County Health Department (MDCHD) has used Electronic Surveillance System for the Early Notification of Community Based Epidemics (ESSENCE) in the county's 17 largest of 23 emergency department (ED) hospitals since 2005. ESSENCE's primary aim is to categorize chief complaints into syndromes in order to detect outbreaks or bioterrorism events using automated alerts when there are statistical aberrations. On February 25, 2009, a specialized query in ESSENCE detected a toxic exposure outbreak among 25 individuals at the same hospital. Therefore, two days later MDCHD staff requested ESSENCE developers to add a new syndrome called "Exposure" for the purpose of having automated alerts

rather than conducting queries. ESSENCE developers retroactively recoded all ED data since its implementation so that previous exposure data could be analyzed.

Methods

The study captured data in the exposure syndrome from January 1, 2007 to May 20, 2009. The exposure syndrome includes chief complaints containing the terms "Exposure" or "Exposed." Seven exposure categories were created which include (1) exposure non specified; (2) chemical (e.g. carbon monoxide, toxic substances); (3) biological (e.g. blood, bodily fluids); (4) sexually transmitted infections (STI); (5) communicable disease (e.g. meningitis, tuberculosis, chicken pox); (6) environmental (e.g. mold, fumes); (7) other. When unusual clustering was suspected, staff contacted the Infection Control Practitioner (ICP) of the hospital and investigated to confirm illness. Clustering was determined by date,

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time, hospital and zip code. Data was analyzed by age, gender and type of exposure.

Results

There were 2,111,000 ED visits during the study period of which 871 (0.05%) visits were exposure related. The majority of exposure cases were biological (19.5%), STI (18.9%) and communicable diseases (17.5%). There were 44 clusters involving 140 persons. Over 30% of clusters were for communicable diseases (Table 1).

In addition, the 18 to 64 age group comprised 82.2% of all exposure cases whereas children 0 to 4 years of age were 8.8% and adults 65 years of age and older were 2.8%.

Males had a higher percentage of exposure related ED visits compared to females by 9.6%. Also, there were 22 red alerts and 41 yellow alerts automated by the exposure syndrome. The range of patients seen in one day was between 0 to 29 with a mean of 1 patient per day. Since the implementation of this new syndrome, 5 clusters have been detected in a 3 month period. These included exposures to chemicals such as hydrochloric acid and communicable diseases such as Hepatitis A. An example of public health action taken was when an alert appeared on March 24, 2009 for toxic exposure among 10 individuals visiting the same ED within the same time range. Our investigation discovered the toxic exposure

was carbon monoxide poisoning; a new reportable disease in Florida. The cases were followed up to ensure appropriate reporting by the health provider.

Conclusions

This study verified that ESSENCE can be useful to monitor exposure in Miami Dade County. Although chief complaints for exposure accounted for a small percentage of overall ED visits, it was instrumental in finding clusters. The term exposure is commonly linked to significant public health issues such as environmental, bioterrorism and infectious diseases. Therefore, this implementation should be replicated among other syndromic surveillance systems in order to take action when alerts appear to control potential spread of any type of exposure.

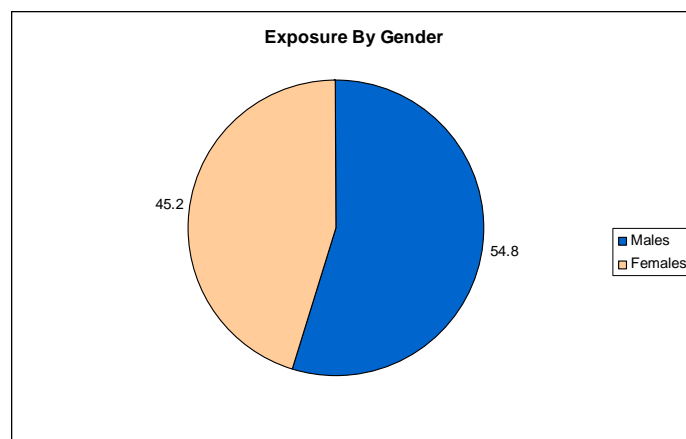


Table 1. Exposure-related emergency department visits by type of exposure and cluster, Miami Dade County, January 2007-May 2009 (N=871)

Type of Exposure	Numer of cases	Percent of total exposure cases	Number of clusters	Number of cases in clusters
Biological	170	19.5	5	16
Sexually Transmitted Infection (STI)	165	18.9	3	6
Communicable Disease (not STI)	152	17.5	14	59
Exposure (non specified)	133	15.3	10	22
Chemical	121	13.9	7	23
Other	94	10.8	4	9
Environmental	36	4.1	1	5
Total	871	100.0	44	140

November is...

National Adoption Month

National Healthy Skin
Month

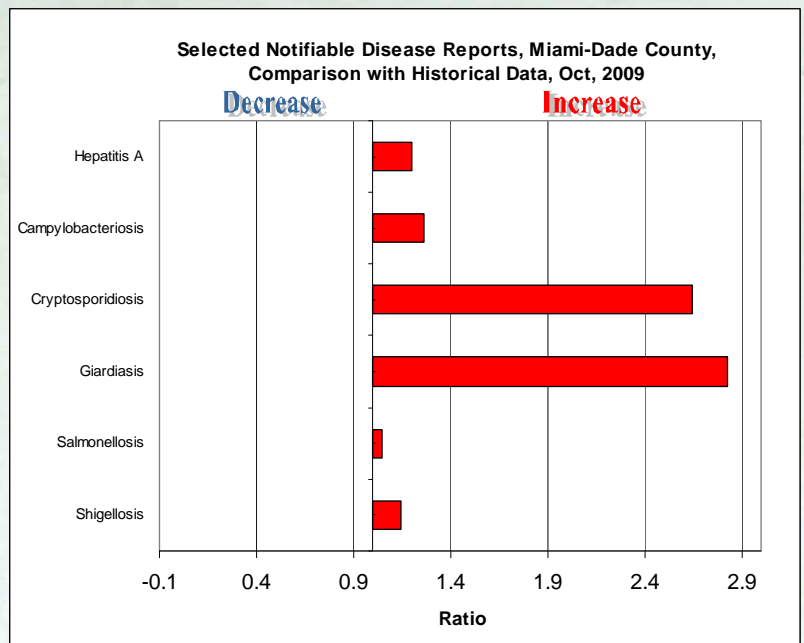
Family Caregivers Month

Hospice Palliative Care
Month

Pancreatic Cancer
Awareness Month

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 Program305-325-3242
Tuberculosis Program305-324-2470
Immunization Service305-470-5660
To make an appointment.....786-845-0550



Upcoming **December**
Topic is..
“Safe Toys and Gifts Month”



Miami-Dade County Health Department **EDC-IS Influenza/Respiratory Illness** **Surveillance Report**

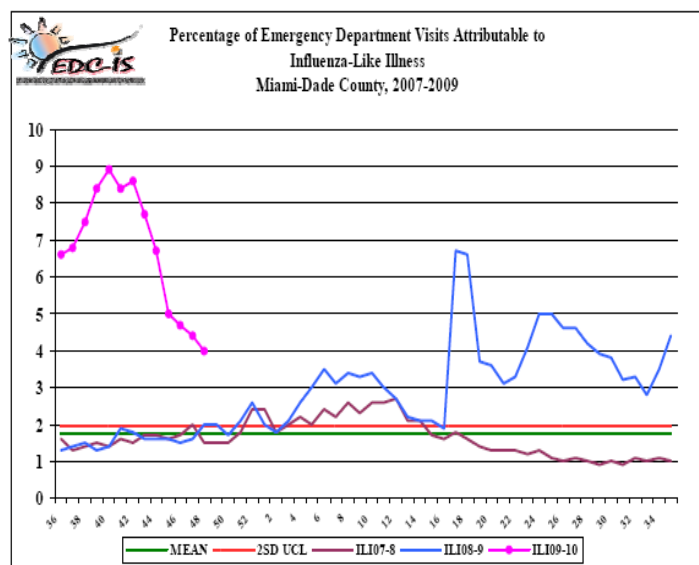
Week 48: 11/29/2009 – 12/05/2009



Miami Dade County Health Department EDC-IS collects and analyzes weekly information on influenza activity in Miami-Dade County. On a daily basis, selected Miami-Dade County hospitals electronically transmit hospital emergency department data to the Miami-Dade County Health Department.

This data is then categorized into 10 distinct syndromes. The influenza-like illness (ILI) syndrome consists of fever with either cough or sore throat. It can also include a chief complaint of "flu". Each week, staff will determine the percentage of all emergency department visits that fall into the ILI category.

Influenza-Like-Illness, All Age



During this period, there were 18,120 ED visits; among them 718 (4.0%) were ILI. At the same week of last year, 2.0% of ED visits were ILI.

For more information, please contact
Erin O'Connell at 305-470-5660.

PARTICIPATE IN INFLUENZA **SENTINEL** **PROVIDER SURVEILLANCE**

The Miami-Dade County Health Department 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
Erin O'Connell at 305-470-5660.

About the Epi Monthly Report

The Epi Monthly Report is a publication of the Miami-Dade County Health Department, 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 Lizbeth Londoño at 305-470-6918.

Monthly Report **Selected Reportable Diseases/Conditions in Miami-Dade County,** **October 2009**

Diseases/Conditions	2009 this Month	2009 Year to Date	2008 Year to Date	2007 Year to Date	2006 Year to Date	2005 Year to Date
AIDS ^{*Provisional}	46	775	947	664	N/A	N/A
Campylobacteriosis	11	143	125	123	143	115
Ciguatera Poisoning	1	34	19	4	0	0
Cryptosporidiosis	6	24	52	41	27	27
Cyclosporiasis	0	1	5	0	0	11
Dengue Fever	3	7	6	3	2	3
<i>E. coli</i> , O157:H7	0	0	2	3	1	0
<i>E. coli</i> , Non-O157	0	0	1	2	0	1
Encephalitis (except WNV)	0	0	5	3	0	0
Encephalitis, West Nile Virus	1	1	0	1	0	0
Giardiasis, Acute	62	549	215	218	182	185
Hepatitis A	4	43	29	29	43	54
Hepatitis B	0	11	14	18	22	39
HIV ^{*Provisional}	111	1034	1372	1212	N/A	N/A
Influenza A (H5)	0	0	0	0	0	0
Influenza Isolates	0	0	0	0	0	0
Influenza Novel Strain	75	1336	0	0	0	0
Influenza, Pediatric Death	0	2	0	0	0	0
Lead Poisoning	22	136	155	133	125	146
Legionnaire's Disease	2	19	6	1	9	6
Leptospirosis	0	0	0	0	0	2
Lyme disease	2	5	8	7	0	0
Malaria	2	17	11	9	14	8
Measles	0	0	0	0	0	0
Meningitis (except aseptic)	0	0	3	8	12	11
Meningococcal Disease	0	13	8	8	12	6
Mumps	1	1	5	3	0	0
Pertussis	3	35	22	22	5	9
Rubella	0	0	1	0	0	0
Rubella, Congenital	0	0	0	0	0	0
Salmonellosis	57	450	414	333	478	469
Shigellosis	12	144	52	107	117	223
<i>Streptococcus pneumoniae</i> , Drug Resistant	13	100	90	72	87	56
Tetanus	0	0	0	0	0	0
Toxoplasmosis	0	1	1	2	0	9
Tuberculosis ^{*Provisional}	17	141	147	135	154	165
Typhoid Fever	0	3	1	2	6	2
<i>Vibrio cholera</i> Type O1	0	0	0	0	0	0
<i>Vibrio cholera</i> Non-O1	0	0	0	0	0	0
<i>Vibrio</i> , Other	0	0	0	0	0	0
West Nile Fever	0	0	0	0	0	0



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

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