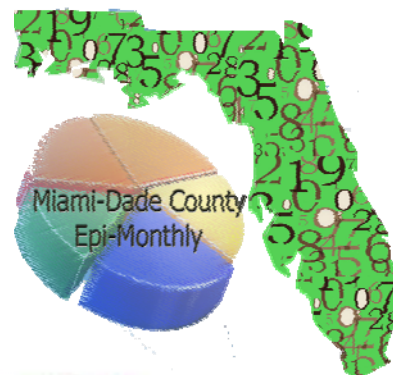


Epi Monthly Report

Using ESSENCE to Identify a Seasonal Pattern of Gastrointestinal Syndrome in Miami-Dade

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Inside this issue:

OBJECTIVE

To illustrate how Miami-Dade County Health Department (MDCHD) used ESSENCE to track a seasonal pattern of gastrointestinal syndrome among children aged 0-4 that was mostly associated to rotavirus infection.

BACKGROUND

The Office of Epidemiology, Disease Control and Immunization Services (EDS) at MDCHD has been using ESSENCE since 2005. This paper describes a consistent seasonal pattern of peaking numbers of Emergency Department (ED) patients aged 0-4 with gastrointestinal syndrome detected from 2003 to 2007. This pattern was broken in 2008 after an immunization campaign against rotavirus infection took place.

METHODS

A specialized query with the string ^diarrhea^, ^vomit^, ^gastroent^ is performed in ESSENCE on a daily basis at the EDS for both, situational awareness and early detection of disease outbreaks. This

query is performed countywide and for some of the most important hospitals, including the largest pediatric hospital in Miami-Dade (heretofore termed Hospital A). The query is broken down by age groups (0-4, 5-17, 18-64 and 65+). Temporal associations were explored between the monthly seasonal peaks in the number of ED patients with these symptoms and the monthly incidence of enteric diseases, either of bacterial nature (salmonellosis, shigellosis campylobacteriosis) or parasitic (giardiasis, cryptosporidiosis and cyclosporiasis) as notified in the Merlin database of reportable diseases of the State of Florida. Since rotavirus infection is not a reportable disease in the State of Florida, no comprehensive, countywide data was available. Instead, the number of children aged 0-4 who were diagnosed with rotavirus infection by month during the period 2003-2008 at Hospital A was used for the monthly exploratory analysis with the ESSENCE data.

Using ESSENCE to Identify a Seasonal Pattern of Gastrointestinal Syndrome in Miami-Dade

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Using ESSENCE to Identify a Seasonal Pattern of Gastrointestinal Syndrome in Miami-Dade

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Selected Notifiable Disease Reports, Historical data, November 2009

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EDC-IS Influenza/Respiratory Illness Surveillance Report

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Monthly Report, Selected Reportable Diseases/ Conditions in November 2009

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RESULTS

A seasonal pattern characterized by peaks in the count of ED patients aged 0-4 with symptoms of diarrhea, vomiting or gastroenteritis was evident in March and April from 2003 to 2007. Other age groups did not show seasonality. These peaks appeared to be unrelated to the incidence of enteric diseases, either of bacterial or parasitic nature. Data of incidence of rotavirus infection in Hospital A from 2003 to 2007 showed a seasonal pattern, with peaks in March-April each year. In 2008, after the introduction of a new vaccine aimed at preventing rotavirus infection among children in Miami-Dade, the number of cases of this disease reported at Hospital A plummeted by 88%, from 91 in March 2007 to 11 in March 2008. The peak in the count of ED patients aged 0-4 with symptoms of diarrhea, vomiting or gastroenteritis flattened out in 2008 (see chart). This new pattern was confirmed in March-April 2009.

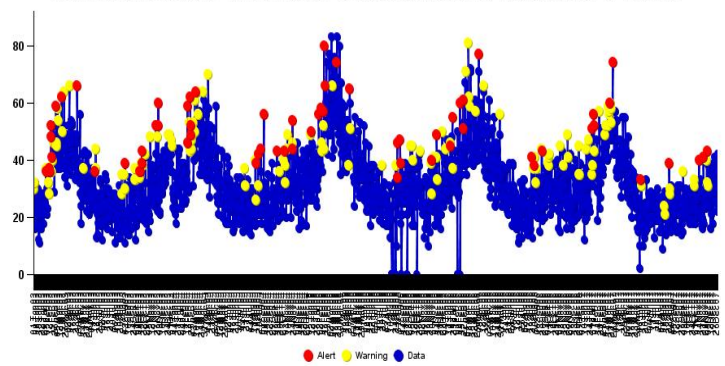
CONCLUSIONS

ESSENCE can be useful, not just for purposes of situational awareness and early detection of disease outbreaks, but also to evaluate public health interventions like immunization against infectious diseases.

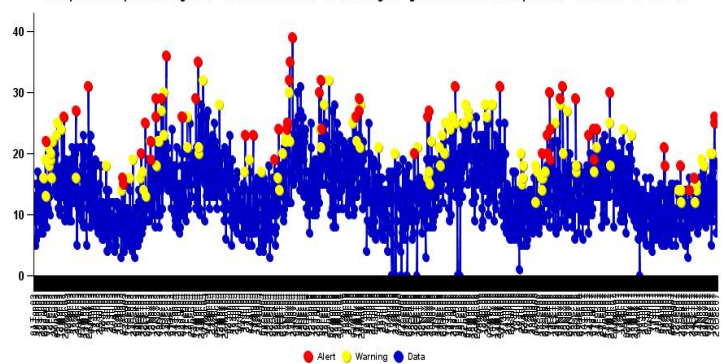
ACKNOWLEDGMENTS

We are grateful to Dr Fermin Leguen, Juan Suarez, Ed-helene Rico and Debbie Summers, and the ICP of Hospital A, for providing assistance with advice and data.

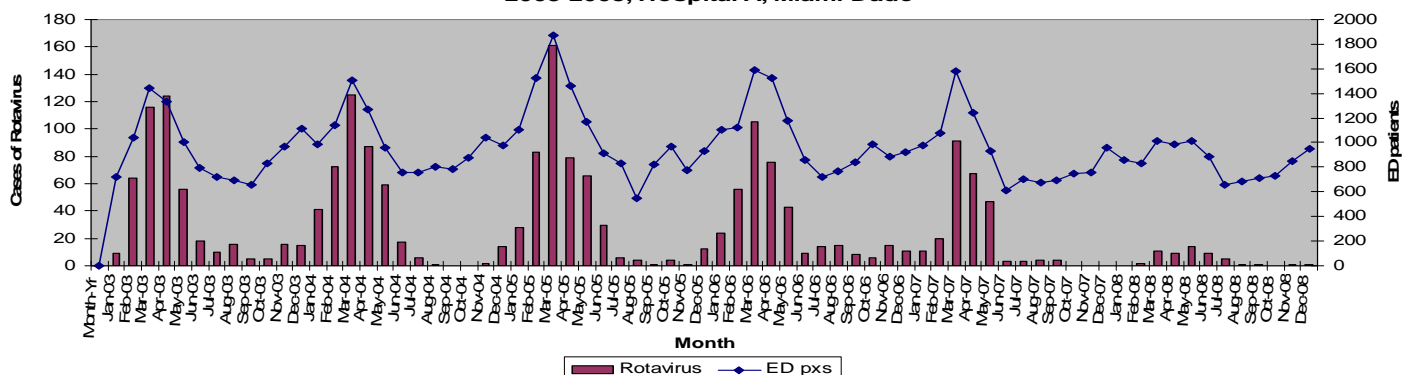
Graph 1. ED patients aged 0-4 with diarrhea, or vomiting, or gastroenteritis, Hospital A, 1 Jan 03-31 Dec 07



Graph 2. ED patients aged 5-17 with diarrhea, or vomiting, or gastroenteritis, Hospital A, 1 Jan 03-31 Dec 07



Cases of rotavirus infection and ED patients with diarrhea, vomiting, or gastroenteritis, aged 0-4, 2003-2008, Hospital A, Miami-Dade



December is...

Safe Toys and Gifts Month

World AID Day

**National Aplastic Anemia and MDS
Awareness Week**

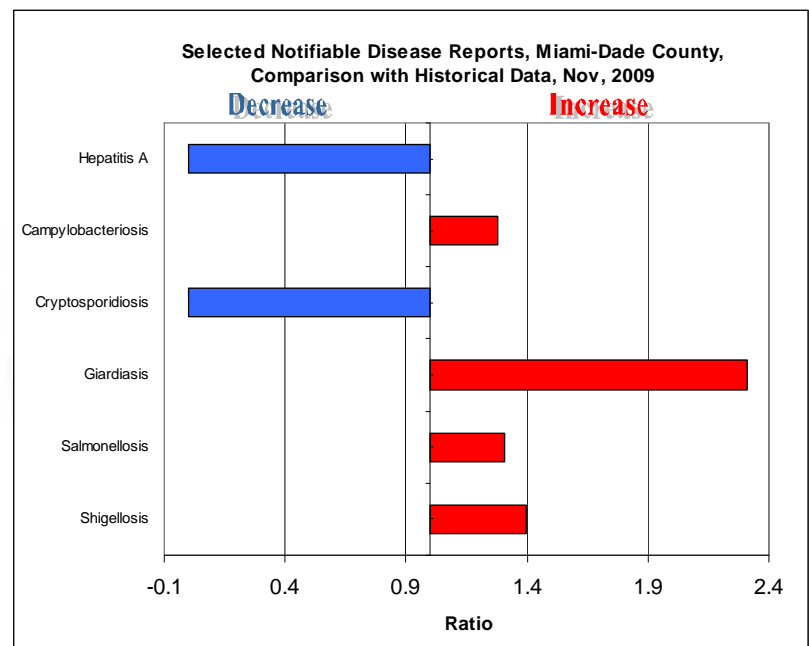
**National Handwashing Awareness
Week**

**EDC-IS would like to wish you a
Merry Christmas.
May this upcoming year be
filled with joy and prosperity.**

Have a safe and fun Holiday!

**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



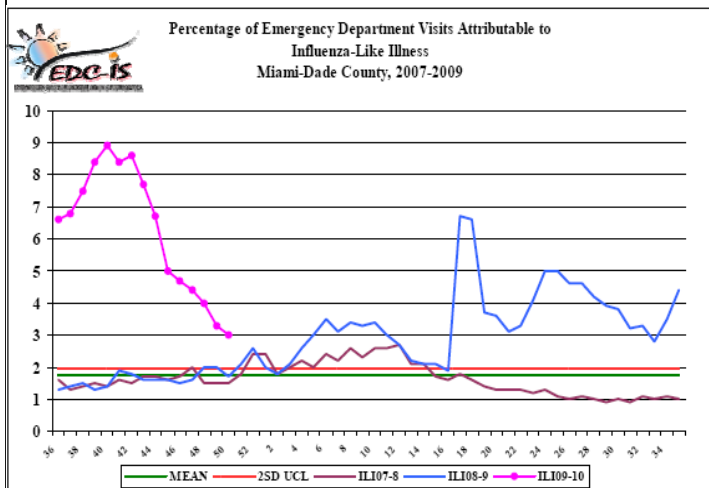
Miami-Dade County Health Department EDC-IS Influenza/Respiratory Illness Surveillance Report

Week 50: 12/13/2009 – 12/19/2009



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.



During this period, there were 6,286 ED visits; among them 298 (4.7%) were ILI. At the same week of last year, 3.9% 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,** **November 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	821	1020	744	N/A	N/A
Campylobacteriosis	11	154	134	133	150	129
Ciguatera Poisoning	0	34	19	4	0	0
Cryptosporidiosis	0	24	55	47	35	35
Cyclosporiasis	0	1	5	0	0	20
Dengue Fever	4	11	6	3	3	3
<i>E. coli</i> , O157:H7	0	0	2	4	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	0	1	0	1	0	0
Giardiasis, Acute	52	601	257	239	199	199
Hepatitis A	0	44	29	29	46	59
Hepatitis B	1	12	14	18	24	45
HIV ^{*Provisional}	111	1145	1466	1323	N/A	N/A
Influenza A (H5)	0	0	0	0	0	0
Influenza Isolates	0	0	0	0	0	0
Influenza Novel Strain	41	1377	0	0	0	0
Influenza, Pediatric Death	0	2	0	0	0	0
Lead Poisoning	2	138	162	156	133	160
Legionnaire's Disease	0	19	6	3	9	8
Leptospirosis	0	0	0	0	0	2
Lyme disease	1	6	8	7	0	0
Malaria	0	17	13	9	15	10
Measles	0	0	0	0	0	0
Meningitis (except aseptic)	0	0	3	9	12	11
Meningococcal Disease	2	15	8	8	13	6
Mumps	0	1	6	3	0	0
Pertussis	0	35	26	8	9	0
Rubella	0	0	1	0	0	0
Rubella, Congenital	0	0	0	0	0	0
Salmonellosis	61	511	478	386	550	550
Shigellosis	15	159	61	112	137	242
<i>Streptococcus pneumoniae</i> , Drug Resistant	5	105	102	84	92	59
Tetanus	0	0	0	0	0	0
Toxoplasmosis	0	1	1	3	0	9
Tuberculosis ^{*Provisional}	17	141	161	178	186	230
Typhoid Fever	0	0	0	0	0	0
<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.