

Epi Monthly Report

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Using ESSENCE to Detect an Outbreak in an Assisted Living Facility in Miami-Dade County, 2008

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OBJECTIVE

To illustrate how Miami-Dade County Health Department (MDCHD) utilized Electronic Surveillance System for the Early Notification of Community Based Epidemics (ESSENCE) to detect an outbreak in an assisted living facility.

BACKGROUND

ESSENCE provides tools to detect a significant alert of an unusual public health event in our community. Its use has been extended to specific queries which have been successful in assisting MDCHD with communicable disease surveillance activities. On Thursday, September 25, 2008, an ESSENCE specified query detected five adults ranging from 42 to 73 years of age that visited a Broward County emergency room (ER) within half an hour. In addition, all resided in the same

zip code with identical chief complaints. Due to these similarities, the MDCHD decided to further investigate to determine whether it was a potential outbreak.

METHODS

In 2008, a specialized query for the words ^diarrhea^,or,^vomit^ was added to the daily communicable disease queries in ESSENCE in order to detect a gastrointestinal (GI) disease outbreak from either a facility or a region in the community. Any potential outbreaks consist of clustering by: hospital, resident zip code, and time. Once a trend is identified, MDCHD contacts the hospital's Infection Control Practitioner (ICP) to obtain additional information and confirm potential outbreaks.

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RESULTS

On September 25th, 2008, a cluster by resident's zip code and ER visit time were detected in a Broward County hospital with diarrhea as chief complaints. Thus, the hospital ICP was contacted immediately to confirm the cases. It was discovered through the ICP that the five individuals came from a Miami-Dade County assisted living facility. The assisted living facility can house a maximum of five persons and is licensed for mentally challenged residents. Among 5 ill individuals, 3 were female with ages ranging from 42 to 73 years. One resident experienced vomiting. MDCHD staff contacted the owners of the shelter and conducted a site visit on Monday, September 29th by the Office of Epidemiology and Disease Control staff and on Tuesday, September 30th by the MDCHD Office of Environmental Health. Interviews were conducted with the owners for food history, activities, and living arrangements. As a result, interviews revealed that the facility had three bedrooms for the residents. Two bedrooms had two beds while the third had one. All five residents have been ill since the previous week. Due to the fact that residents were ill for one week, a physician was contacted and recommended immodium for the ill residents . However, when symptoms did not subside they subsequently visited the ER. Stool samples were not collected during their ER visit. Additional interviews revealed that two of seven (29%) staff members also had diarrheal symptoms. Later, MDCHD collected stool

samples from all residents and staff members and sent it to the Florida Department of Health, Bureau of Laboratories for testing of ova & parasite and norovirus. To date, only one sample was positive for norovirus type GII. The facility was given an unsatisfactory report by Environmental Health with multiple violations, including 1) broken egg shells during storage, 2) a refrigerator above the recommended temperature of 41°F, 3) an un-operational wall heater in hallway, 4) rotten kitchen cabinet surfaces, 5) an unsanitary shower located in the office room, and 6) overflowing wastewater from the laundry machine. It was recommended that each violation immediately be corrected.

CONCLUSIONS

This study verified that ESSENCE can be useful in detecting outbreaks by using a specialized query in addition to the automated syndrome alert. Since a gastrointestinal illness alert was not automated because of the small number of persons involved or health care providers may have not reported a potential outbreak through current passive surveillance systems, this demonstrates how important it is to carefully monitor clusters and review all data sources. These can be useful tools of information for disease control and tracking.

ESSENCE IV Site



OCTOBER IS...



• NATIONAL BREAST CANCER AWARENESS

- TALK ABOUT PRESCRIPTIONS MONTH
 - HEALTHY LUNG MONTH
 - NATIONAL CHIROPRACTIC MONTH
- SUDDEN INFANT DEATH SYNDROME AWARENESS MONTH
 - NATIONAL PHYSICAL THERAPY MONTH

According to the National Cancer Institute, breast cancer is a cancer that forms in tissues of the breast, usually the ducts (tubes that carry milk to the nipple) and lobules (glands that make milk). It occurs in both men and women, although male breast cancer is rare.

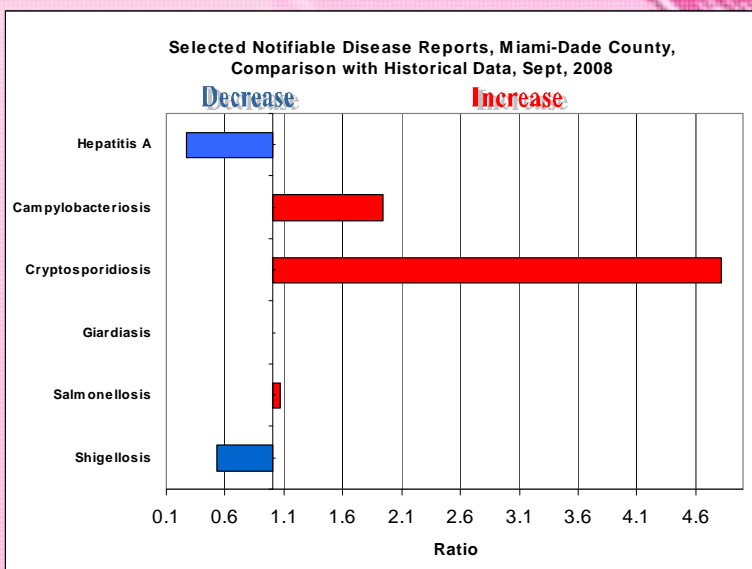
Estimated new cases and deaths from breast cancer in the United States in 2008:

- New cases: 182,460 (female); 1,990 (male)
- Deaths: 40,480 (female); 450 (male)

Today

- Nearly 90% of women diagnosed with breast cancer will survive their disease at least 5 years.
- Breast-conserving surgery (lumpectomy) followed by local radiation therapy has replaced mastectomy as the preferred surgical approach for treating women with early stage breast cancer.
- Routine mammographic screening is an accepted standard for the early detection of breast cancer. The results of eight randomized trials and of the NCI-ACS Breast Cancer Detection Demonstration Projects established that mammographic screening can reduce mortality from breast cancer.
- Combination chemotherapy has become standard in the adjuvant treatment of women with early stage breast cancer. The goal of this systemic therapy is to eradicate cancer cells that may have spread beyond the breast. Neoadjuvant chemotherapy, or chemotherapy given before surgery to reduce the size of the tumor and to increase the chance of breast-conserving surgery, is being studied in clinical trials.

For further information please visit U.S. National Institutes of Health, www.cancer.gov



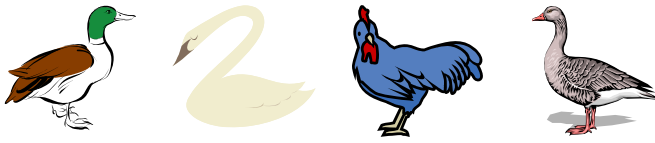
TO REPORT ANY DISEASE AND FOR INFORMATION CALL:

Epidemiology, Disease Control & Immunization Services

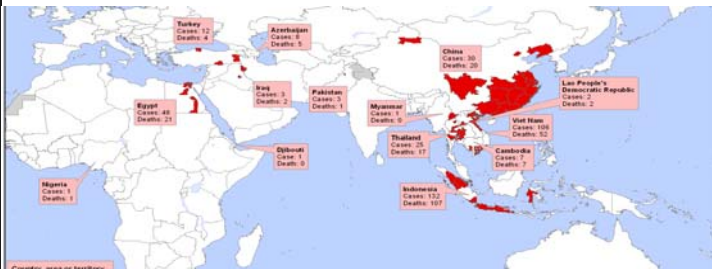
- Childhood Lead Poisoning Prevention Program305-470-6877
- Hepatitis305-470-5536
- Other diseases and outbreaks305-470-5660
- HIV/AIDS Program305-470-6999
- STD Program305-325-3242
- Tuberculosis Program 305-324-2470
- Special Immunization Program786-845-0550

AVIAN FLU WATCH

Unless indicated, information is current as of
September 2008



- Since 2003, there have been 387 human cases of avian influenza (H5N1) confirmed by the World Health Organization (WHO). Of these, 245 cases have died. This means there is a 63% (245/387) fatality rate.
- **15 Countries with confirmed human cases** include Bangladesh, Cambodia, China, Djibouti, Indonesia, Thailand, Vietnam, Iraq, Azerbaijan, Egypt, Turkey, Nigeria, Pakistan, Myanmar, and Lao People's Democratic Republic .



- **No human cases of avian influenza (H5N1) have been reported in the United States.**
 - **H5N1 has been confirmed in birds in several other countries since 2003.** H5N1 has been documented in birds in more than 30 countries in Europe & Eurasia, South Asia, Africa, East Asia and the Pacific, and the Near East. For a list of these countries, visit the World Organization for Animal Health Web Site at :
http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm.
 - **No restrictions on travel to affected countries have been imposed.** Travelers should avoid contact with live poultry and monitor their health for ten days after returning from an affected country.
- SOURCES: WHO, OIE, CDC

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, September 2008

Diseases/Conditions	2008 this Month	2008 Year to Date	2007 Year to Date	2006 Year to Date	2005 Year to Date	2004 Year to Date
AIDS ^{*Provisional}	83	931	601	902	1016	1074
Campylobacteriosis	22	109	114	138	105	108
Ciguatera Poisoning	1	19	0	0	0	0
Cryptosporidiosis	18	41	30	22	25	16
Cyclosporiasis	0	5	0	0	11	2
Dengue Fever	2	5	3	1	1	3
<i>E. coli</i> , O157:H7	0	3	2	1	0	3
<i>E. coli</i> , Non-O157	0	0	0	0	1	1
Encephalitis (except WNV)	0	5	3	0	0	1
Encephalitis, West Nile Virus	0	0	1	0	0	14
Giardiasis, Acute	24	189	200	165	155	226
Hepatitis A	2	24	27	37	48	34
Hepatitis B	1	14	13	20	37	26
HIV ^{*Provisional}	118	1259	1077	890	1067	1295
Influenza A (H5)	0	0	0	0	0	0
Influenza Isolates	0	0	0	0	0	0
Influenza Novel Strain	0	0	0	0	0	0
Influenza, Pediatric Death	0	0	0	0	0	0
Lead Poisoning	30	141	116	116	129	215
Legionnaire's Disease	0	6	1	7	5	7
Leptospirosis	0	0	0	0	2	0
Lyme disease	2	6	4	0	0	3
Malaria	3	9	9	14	7	15
Measles	0	0	0	0	0	1
Meningitis (except aseptic)	0	3	6	12	11	8
Meningococcal Disease	2	8	8	12	5	15
Mumps	1	3	2	0	0	0
Pertussis	2	19	22	5	9	9
Rubella	0	1	0	0	0	0
Rubella, Congenital	0	0	0	0	0	0
Salmonellosis	62	349	285	400	391	330
Shigellosis	9	41	102	97	206	132
<i>Streptococcus pneumoniae</i> , Drug Resistant	4	83	70	83	53	54
Tetanus	0	0	0	0	0	0
Toxoplasmosis	0	0	2	0	9	5
Tuberculosis ^{*Provisional}	19	134	121	143	148	177
Typhoid Fever	0	1	1	6	2	3
<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	4



*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.