Miami-Dade County Health Department
Office of Epidemiology and Disease Control

VOLUME 8. ISSUE 5
MAY 2007

Epi Monthly Report

Outbreak of Salmonellosis in a Restaurant Catered Home Celebration

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Background

On January 2, 2007, the Office of Epidemiology and Disease Control (OEDC) of the Miami-Dade County Health Department (MDCHD) received a report of Salmonellosis in a hospitalized patient from a local hospital's infection control practitioner. An initial interview with the patient underscored that five members of his/her family had been ill with similar symptoms. The patient, family, and friends had a dinner celebration on December 24, 2006 attended by 12 persons. The food for this dinner was purchased from three different facilities: two supermarkets and one restaurant. In the meantime, we received another report from the same hospital regarding another case of Salmonellosis in a hospitalized patient, not related to the first one. This second patient consumed food from the same restaurant on the same day that the index case did. Based on this information the OEDC decided to initiate an outbreak investigation and reported the restaurant to the Department of Business and Professional Regulation (DBPR).

Methods

The OEDC investigators obtained food items information from the dinner organizer and prepared a questionnaire to interview all dinner attendees. DBPR was notified and performed an environmental inspection of the restaurant. Questionnaires were analyzed using Epi-Info statistical software. OEDC and DBPR made a follow up visit to the restaurant to give recommendations. Stool tests for Salmonella were performed at the hospital.

Results

Epidemiological Investigation

Eleven out of twelve interviews were completed among attendees to the dinner. The second Salmonella case was interviewed to identify common food exposures at the restaurant. This patient was not related to the dinner party but ate similar foods, the same day, and at the same restaurant. Information from this patient was not included in this analysis even though we consider him/her part of this outbreak.

A total of six (55%) of the eleven interviewed persons, reported symptoms such as diarrhea, fever, nausea, chills, headache, vomiting, and abdominal pain. Three (50%) of the ill respondents were female. Their ages ranged from 13 to 82 years old. Three (50%) visited a physician due to their illness, and two were hospitalized. Table 1 shows the distribution of gastrointestinal symptoms among respondents.

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Table1. Frequency of symptoms reported by respondents (N=6).

Symptom	Frequency	Percent
Diarrhea	6	100
Fever	6	100
Nausea	5	83
Chills	5	83
Weakness	5	83
Headache	4	67
Vomiting	4	67
Dizziness	4	67
Abdominal pain	3	50

Food items consumed by dinner attendees were analyzed to determine a possible association between foods and illness among attendees. Roasted pork was found to be the most likely vehicle for the pathogen. Table 2 shows selected food items and two measures of association (the risk ratio and p value).

Laboratory Investigation

Four stool specimens were tested at the hospital lab and/or private labs. Salmonella serogroup B was isolated from the two hospitalized patients.

No food was tested as no leftovers were available and 9 days had passed from exposure to when the outbreak was reported.

Environmental Inspection

Thirteen violations to code were identified during an inspection of this restaurant completed by DBPR representatives on January 4, 2007 at request of the OEDC. Eight were critical and five non-critical and an Emergency Order was recommended. A follow up inspection the next day found no violations. Previously DBPR representatives had conducted a routine inspection of this restaurant on December 20, 2006, and an Emergency Order was recommended due to 17 critical and 10 non-critical violations to code uncovered during that visit. A follow up inspection conducted on December 21, 2006 showed that the restaurant had 12 critical and 9 non-critical violations.

Conclusions and Recommendations

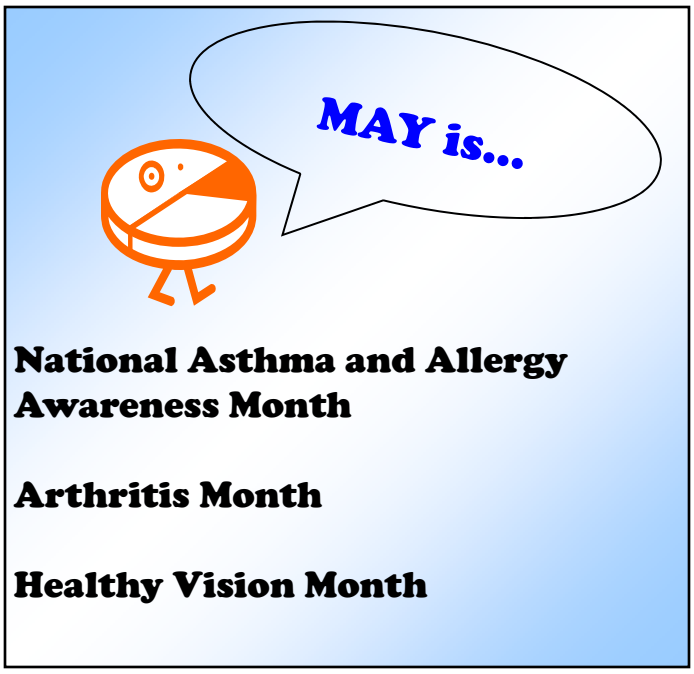
Consumption of contaminated pork was the most likely cause of this outbreak. Pork was the food implicated in the statistical analysis (p=0.01). Furthermore, a second confirmed case consumed pork from this restaurant on the same day. Other cases of Salmonella initially suspected of being part of this outbreak were excluded because the serogroup isolated from these cases was different from the outbreak's group B. None of the non ill dinner attendees ate pork. Some of the violations reported by DBPR representa-

Table 2. Risk ratios, confidence interval, and p values for selected food items.

Food Item	Risk Ratio	95% CI	P Value
Roast pork	*6.00*	*1.00-35.91*	*0.01*
Roast turkey	1.67	0.49-5.61	0.39
Black beans	0.44	0.21-0.92	0.27
Moros (rice/beans)	0.88	0.27-2.82	0.65
Maduros (plantains)	0.50	0.27-0.93	0.55
White rice	0.50	0.27-0.93	0.55
Yucca	0.57	0.20-1.59	0.35
Quorn	0.00	Undefined	0.18

tives on December 20 could be possible causes of food's cross-contamination and subsequent infection of patrons.

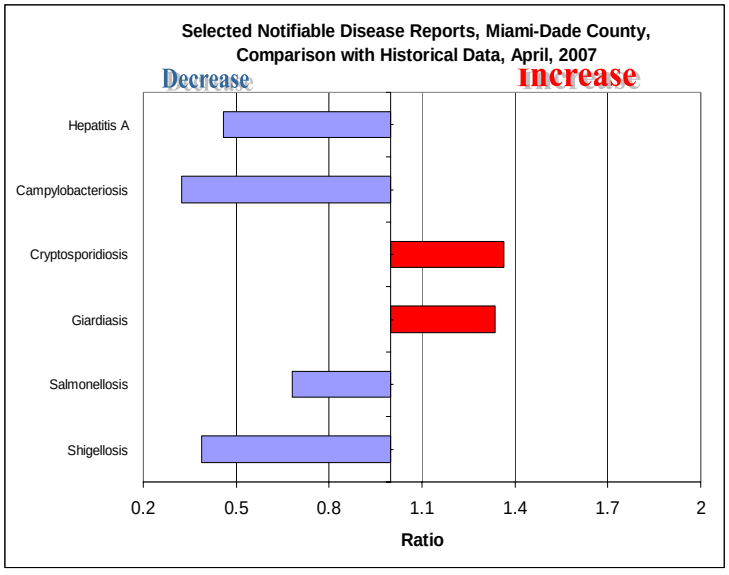
The OEDC recommended compliance with the food code and correction of all violations cited by DBPR including structural repairs in the restaurant's kitchen. Additionally, we recommended to the restaurant management to receive a HACCP (Hazard Analysis of Critical Control Points) visit by either DBPR or a private consulting company to advise them in additional improvements to their food safety protocols and the restaurant's infrastructure. Most of the violations had been corrected as of the date of OEDC's visit to the restaurant, but further follow up from DBPR representatives is needed to ensure this restaurant's full compliance with Florida's food handling codes.



TO REPORT ANY DISEASE AND FOR INFORMATION CALL:

Office of Epidemiology and Disease Control

Childhood Lead Poisoning Prevention Program	(305) 470-6877
Hepatitis	(305) 470-5536
Other diseases and outbreaks	(305) 470-5660
HIV/AIDS Program	(305) 470-6999
STD Program	*(305) 325-3242*
Tuberculosis Program	*(305) 324-2470*
Special Immunization Program	(786) 845-0550



AVIAN FLU WATCH

Unless indicated, information is current as of May 24, 2007



- **Since 2003, 306 human cases of avian influenza (H5N1) have been confirmed** by the World Health Organization (WHO). Of these, 186 have been fatal.
- **Countries with confirmed *human* cases** include Cambodia, China, Djibouti, Indonesia, Thailand, Vietnam, Iraq, Azerbaijan, Egypt, Turkey, and Lao People's Democratic Republic.
- **No human cases of avian influenza (H5N1) have been reported in the United States.**
- **The most recent confirmed case of human infection with H5N1 avian influenza is from Indonesia.** This 5 year old female became symptomatic May 8; she later died May 17 after being hospitalized. Exposure to dead poultry is believed to be the source of this child's infection. **The WHO is confirming additional cases and deaths of human infection with the H5N1 avian influenza occurring in Indonesia.** There are a total of fifteen additional cases and 13 deaths having onset dates ranging from January 2007 through May 2007. In Jan., 2 cases, a 30 year old male and 16 year old female, with onset dates of the 25 and 31 respectively, were hospitalized Jan. 31 and Feb. 5. These were the only cases that recovered. Although the exposure source is unknown for 8 cases, 7 had contact with sick or dead poultry. Previously, the WHO required external laboratory confirmation of results from Indonesia but WHO will accept results without external confirmation after an onsite inspection of the national laboratory in Jakarta's ability to test for H5 avian influenza viruses.
- **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 Organisation 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: World Health Organization; World Organisation for Animal Health; Centers for Disease Control and Prevention

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, Office of Epidemiology and Disease Control, 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 Diana Rodriguez, Managing Editor at 305-470-5660.

Monthly Report
Selected Reportable Diseases/Conditions in Miami-Dade County, April 2007

Diseases/Conditions	2007 this Month	2007 Year to Date	2006 Year to Date	2005 Year to Date	2004 Year to Date	2003 Year to Date
AIDS *Provisional	51	296	428	489	460	360
Campylobacteriosis	4	32	37	30	39	37
Chlamydia trachomatis	N/A	N/A	1451	1241	1254	1367
Ciguatera Poisoning	0	0	0	0	0	0
Cryptosporidiosis	2	9	5	11	2	4
Cyclosporosis	0	0	0	0	0	0
Dengue Fever	0	1	0	0	1	0
E. coli, O157:H7	1	1	0	0	1	0
E. coli, Non-O157	0	0	0	0	0	0
Encephalitis (except WNV)	0	0	0	0	1	0
Encephalitis, West Nile Virus	0	0	0	0	0	0
West Nile Fever	0	0	0	0	0	0
Giardiasis, Acute	27	60	61	49	92	40
Gonorrhea	N/A	N/A	518	546	454	602
Hepatitis A	3	11	12	18	6	10
Hepatitis B	2	5	8	17	16	15
HIV *Provisional	105	461	389	522	526	543
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	14	47	40	36	83	52
Legionnaire's Disease	0	1	0	1	1	0
Leptospirosis	0	0	0	0	0	0
Lyme disease	0	0	0	0	1	0
Malaria	0	0	4	5	0	5
Measles	0	0	0	0	0	0
Meningitis (except aseptic)	4	5	5	3	1	1
Meningococcal Disease	1	3	7	3	8	3
Mumps	0	1	0	0	0	0
Pertussis	1	11	3	1	2	0
Rubella	0	0	0	0	0	0
Rubella, Congenital	0	0	0	0	0	0
Salmonellosis	29	101	112	101	90	108
Shigellosis	9	39	31	88	70	101
Streptococcus pneumoniae, Drug Resistant	11	33	40	3	29	45
Syphilis, Infectious	N/A	N/A	76	54	67	62
Syphilis, Other	N/A	N/A	147	200	315	376
Tetanus	0	0	0	0	0	0
Toxoplasmosis	0	1	0	0	1	3
Tuberculosis *Provisional	9	50	75	58	72	80
Typhoid Fever	0	0	2	2	1	1
Vibrio cholera Type O1	0	0	0	0	0	0
Vibrio cholera Non-O1	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.