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Miami-Dade County HEALTH DEPARTMENT

OUTBREAK OF NORWALK-LIKE VIRUS AT A RETIREMENT FACILITY, MIAMI-DADE COUNTY, JULY 2001

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Background

On July 15, the Office of Epidemiology and Disease Control of the Miami-Dade County Health Department (OEDC) learned of a "food borne illness-outbreak" at an Assisted Living Residence in southwest Miami. According to facility staff interviewed on July 15, 10 residents of the facility started having projectile vomiting and abdominal cramps after the July 14 evening dinner, and nine of them had to be taken to various hospitals of the area. Seven of the 10 ill residents were discharged from the hospitals immediately, and the remaining three were observed in the Emergency Room for possible dehydration. On July 14, the ill residents had onset of symptoms from the moment when they finished dinner until five hours after.

Environmental investigation and results

The four-building facility included two assisted living facilities (ALF). The two ALF 's share the same kitchen and entrance area. The ALF residents eat in two different dining rooms each on either side of the kitchen. The two ALF's have a total capacity of 646 residents with a census of 170 residents at one ALF and of 142 residents at the other ALF. They each have 37 staff members. No food handler is involved in the care of the residents, and they reported no sharing of staff between ALFs.

Each ALF has four floors. They are some double rooms with a common bathroom on the inside on one side of the floor. The remaining rooms are arranged to have three residents using a common larger bathroom. The residents of both ALF's share an ice cream fountain on the first floor. There is also a common area to watch movies shared by the ALF residents and occasionally by visitors. The facility has a beauty salon. Twenty-four hours cold cuts sandwich is also available upon request.

The Miami-Dade County Health Department Environmental Health Division sent an inspector on July 16 to evaluate the facility for sanitation and safety. Only minor violations were found. Additionally, water tests were performed at the facility to determine the safety of the drinking water.

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Laboratory results

On July 23, 2001 Norwalk-like virus was identified from 6 of the 11 samples sent to the Tampa State Lab. No bacteria or parasite were found in the specimen. No coliforms were found in the water samples.

Epidemiologic investigation and results

The case definition was any resident or staff of the facility who had vomiting or diarrhea on or after Saturday July 14.

Attempts were made to interview some ill residents to ascertain their food consumption. However, very few of the residents could give a food or activities history. By the end of the day on July 16, 22 additional residents were found to be sick with gastroenteritis and one employee had vomiting.

The onset date of the index cases was July 14. There were no cases prior to July 14. The last cases had onset date of illness of July 19. The incubation period of Norwalk-virus is generally 24-48 hours but may range from 10 to 50 hours (J. Chin, 2000). Therefore, there were at least three generations of illness. There were a total of 56 cases. There were six ill staff including two housekeeping staff and four certified nurses assistants. All became ill after July 14th. Of the 50 residents, the age range was between 28 to 96 years; 14 (28%) were males and 36 (72%) females. The attack rate at one ALF was 33% (47 of 142 residents). The attack rate at the other ALF was 2% (3 of 170 residents). Of the 50 residents, 23 (46%) had only vomiting, 22 (44%) had vomiting and diarrhea, and 5 (10%) had only diarrhea. Fifteen (30%) of the ill residents were hospitalized. Five (14%) of the 37 employees of one ALF met the case definition. There were no ill employees reported among the employees of the 3 adjacent facilities.

Control measures

- The following recommendations were initially communicated to the facility:
  a) Review good hand washing practices with all staff.
  b) Have staff wear masks when cleaning up diarrhea and vomitus or when handling soiled linen of ill residents.
  c) Transport soiled linens in an enclosed manner, such as in a plastic bag.
  d) Keep agitation of linens at a minimum.
  e) Discontinue all communal activities until one week after there have been no new cases of illness in residents or staff.
  f) Do not allow staff or residents to circulate between floors. Do not move ill residents to other parts of the facility.
  g) Ensure that no staff works if they are ill.
  h) Discourage ill staff from working at other facilities.
  i) Guests and/or family members who are ill should not visit the facility.

- On July 16, a referral was also made to the Agency for Health Care Administration which performed an investigation on July 17 and found no deficiencies.
- On July 20, a second letter reiterated key recommendations such as the importance of not circulating facility staff was faxed to the facility because three residents from the adjacent ALF

To report diseases or for information:

Office of Epidemiology and Disease Control

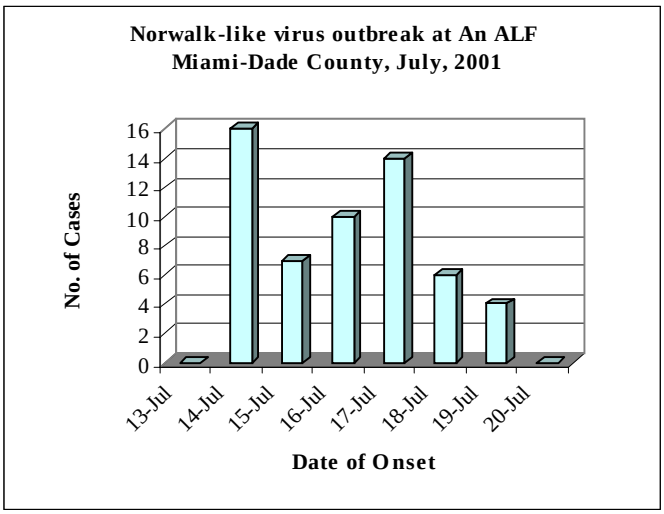
Childhood lead poisoning prevention program	(305) 324-2414
Hepatitis	(305) 324-2490
Other diseases and outbreaks	(305) 324-2413
HIV/AIDS Program	(305) 377-7400
STD Program	(305) 325-3242
Tuberculosis Program	(305) 324-2470
Special Immunization Program	(305) 376-1976
Nights, weekends, and holidays	(305) 377-6751

were reported ill with the same symptoms. The OEDC nurse investigator who was visiting the ALF's daily also communicated these recommendations.

Conclusions

Based on laboratory results and symptoms, this outbreak was due to Norwalk-like virus. Some reported Norwalk-like virus outbreaks in nursing homes have been initially caused by a common-source exposure to contaminated food or water. The outbreak subsequently spreads person to person (CDC, 2001). Because the residents could not give a good food and activities history, it was not possible to determine the source of exposure for the original 10 patients. The source was not the meal on July 14th because the incubation period for Norwalk-like virus is generally 24-48 hours. The water sampled had no indication of fecal contamination, and if there had been water contamination, the outbreak would probably have been more widespread. As of August 1, the hospitalized residents had been discharged back to the ALF's. The ill staff members had returned to work. No further cases of gastroenteritis were received or reported by the residents, the visitors or the staff members. It appears that the control measures stopped this outbreak and probably prevented its spread to the other facilities.

This is the second Norwalk-like virus reported to the Miami-Dade County Health Department this year. The first was also in an ALF setting. From 1996-November 2000, 348 outbreaks of Norwalk-like virus were reported to the Centers for Disease Control and Prevention. Of these, 39% were associated with restaurants followed by 29% in nursing homes and hospitals, 12% in schools and day care centers, 10% in vacation settings such as cruise ships and 10% in other settings (CDC, 2001). Because nursing home/ALF residents often have other medical conditions, they can have a severe course of illness with Norwalk-like virus infections. Because Norwalk-like viruses are relatively common, it may be very difficult to prevent Norwalk-like outbreaks even with very good hygiene. These outbreaks can be protracted without immediate implementation of appropriate control measures. Therefore, it is especially important in these settings that outbreaks be reported immediately to the Miami-Dade County Health Department so that we can assist the facility in implementing appropriate control measures.



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Centers for Disease Control and Prevention. "Norwalk-like Viruses" Public Health Consequences and Outbreak Management. MMWR 2001; Vol 50: No RR-9.

Epidemic Viral Gastroenteropathy in Chin J. Ed. *Control of Communicable Diseases Manual.* 17th Ed. Washington, DC: American Public Health Association, 2000, pp 219.

Monthly Report
Selected Reportable Diseases/Conditions in Miami-Dade County, July 2001

Diseases/Conditions	Reported Cases this Month	2001 Year to Date	2000 Year to Date	1999 Year to Date	1998 Year to Date
AIDS *Provisional	154	858	807	883	976
Campylobacteriosis	24	75	89	84	38
Chancroid	0	0	0	1	3
Chlamydia trachomatis	178	1700	2246	2614	1184
Ciguatera Poisoning	0	0	1	0	0
Cryptosporidiosis	0	8	5	7	8
Cyclosporosis	0	0	0	0	1
Diphtheria	0	0	0	0	0
E. coli , O157:H7	0	0	1	4	2
E. coli , Other	0	0	1	0	1
Encephalitis	0	0	0	0	0
Giardiasis, Acute	29	157	96	51	35
Gonorrhea	102	938	1749	1709	974
Granuloma Inguinale	0	0	0	0	0
Haemophilus influenzae B (invasive)	0	1	1	1	0
Hepatitis A	20	90	39	48	80
Hepatitis B	7	31	27	16	45
HIV *Provisional	165	946	933	861	1020
Lead Poisoning	25	129***	247	Not available	Not available
Legionnaire's Disease	1	1	0	0	1
Leptospirosis	0	0	0	0	0
Lyme disease	0	4	3	0	1
Lymphogranuloma Venereum	0	0	0	0	0
Malaria	0	12	18	13	14
Measles	0	0	0	0	0
Meningitis (except aseptic)	4	13	12	21	14
Meningococcal Disease	1	12	17	12	9
Mumps	0	0	1	2	0
Pertussis	0	1	4	8	11
Polio	0	0	0	0	0
Rabies, Animal	0	0	0	0	1
Rubella	0	0	1	0	0
Salmonellosis	42	138	145	161	115
Shigellosis	26	73	126	90	131
Streptococcus pneumoniae, Drug Resistant	18	124	120	124	58
Syphilis, Infectious	20	113	72	40	17
Syphilis, Other	125	546	449	545	372
Tetanus	0	1	0	0	0
Toxoplasmosis	1	7	0	1	0
Tuberculosis *Provisional	22	117	178	154	159
Typhoid Fever	0	0	1	14	3
Vibrio , *cholera*	0	0	0	0	0
Vibrio , Other	0	0	0	0	1

* Data on AIDS are 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. ***: All follow-up cases were removed