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Miami-Dade County  
HEALTH DEPARTMENT

## Report of A Gastroenteritis Outbreak at A Rehabilitation Center

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### Background

On the evening of October 23, 2003, the Office of Epidemiology and Disease Control (OEDC) of the Miami-Dade County Health Department was notified of an outbreak of gastroenteritis at a rehabilitation center, located in a local facility that serves as a nursing home, and provides limited acute care and rehabilitation services. The nursing director of the facility reported that since October 18, 2003, an increasing number of staff and residents had developed symptoms of diarrhea, nausea, vomiting and abdominal pain. No one had jaundice, fever, or any respiratory symptoms. On the date of the report, seven out of twenty residents, and seven out of one hundred and fourteen staff had been sick.

### Outbreak Investigation

As soon as the call was received by the OEDC, the investigation began with verification that an outbreak was occurring at the facility. The presence of a cluster of gastroenteritis cases above average rates for the facility was identified. An initial interview was conducted with the nursing director, several staff, and administrators of the fa-

cility to determine symptoms and the status of the outbreak. The nursing director performed chart reviews, and interviewed staff to answer the OEDC's questions about clinical symptoms, the number of patients, staff and visitors exhibiting them, dates of symptom onset and resolution, and possible risk factors for illness, including common food and drink exposures.

Based on this interview a case definition was determined to be any resident, staff or visitor at the facility who had diarrhea, with or without nausea, vomiting and abdominal pain since October 18, 2003.

An epi-curve (*figure 1*) was created based on the following information: The initial cases occurred on October 18, 2003 in three physical therapists at the facility's gym. They became ill with nausea, vomiting, diarrhea and abdominal pain. The source of their illness was not obvious, however, a staff member had overheard a visitor describing her own gastroenteritis illness at a pay phone near the facility's gym on October 16, 2003. The identity of the visitor was not known. Subsequently, on October 20<sup>th</sup>, one patient became ill and on October 21<sup>st</sup>, one

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patient, and two employees (a nurse and a physical therapist) became ill. October 22<sup>nd</sup>, two more patients, and one more nurse developed the same illness. The nurse who had become ill on October 21<sup>st</sup> had cared for both of these patients. On October 23<sup>rd</sup>, the outbreak continued to spread, and one nurse and three additional patients became ill. Due to the rising number of sick patients and staff, the facility called their infectious diseases consultant, began infection control precautions, and notified the OEDC. Of note, most patients and staff with illness onset before October 22<sup>nd</sup>, had recovered or were improving, making the duration of illness to be approximately 2-4 days. No illness was identified in any food handlers. Also, no common food or drink was implicated, however, it was reported that a powdered beverage, Crystal Light, had been served to everyone prior to illness onset. The age of this powder was unclear, but a new can was believed to have been opened in the last month.

Diagnostic stool studies had been performed by the facility, but five out of seven stool specimens' results were still pending. Two had returned with negative results for ova and parasites, and *Clostridium difficile*.

Based on the findings of the initial investigation, the OEDC hypothesized that the culprit pathogen was most likely a virus with an incubation period of 2-3 days, and was transmitted probably by fecal-oral or contact. It was determined by the epi-curve, that the outbreak was ongoing, and it was crucial to perform diagnostic studies and ensure implementation of control measures. Stool samples from all ill and recovered cases for viral as well as other studies were requested. The Crystal Light and an ice scoop were also submitted for testing. The Environmental Health section of the Miami-Dade County Health Department, and the Agency for Health Care Administration (AHCA) were notified for performance of an inspection of the facility. The nursing supervisor was informed that the OEDC would contact her daily for reports of any additional cases. Most preventative measures listed below had already been instituted by the facility on the morning of the report to the OEDC, but were reviewed and emphasized again.

### Control measures

1. Cohort cases, and implement contact precautions: patients had already been placed in separate rooms with appropriate infection control precautions.
2. Emphasize good hand washing practices with the entire staff and residents: an in-service on hand washing and hygiene had been given to all staff members by the facility.
3. Exclude ill staff from work and ill visitors from the facility.
4. Disinfections of all equipment in the gym and common areas were planned by the facility.
5. Discontinuation of communal activities.
6. Disallow staff or residents to circulate between floors.
7. Discontinue use of Crystal Light.

### Results:

#### Epidemiology

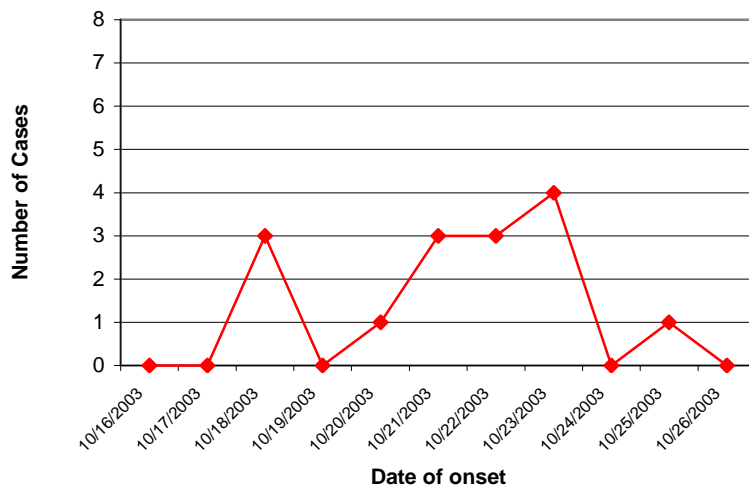
Daily follow-up with the facility revealed a progressive decline in the number of cases (*figure 1*). There were no reported cases on October 24<sup>th</sup> and one resident became ill on October 25<sup>th</sup>. This was the last reported case, therefore the outbreak ended on October 25<sup>th</sup>. Overall, there were a total of 15 cases. Of these, 8 (53.3%) were residents and 7 (46.7%) were staff members: 4 (3.5%) were therapists, and 3 (2.6%) were nurses. The age range of ill residents was between 54 to 92 years, and the female to male ratio was 7:1.

#### Environment

The facility is a four-story building, and consists of two floors, which serve as nursing homes, one as a rehabilitation center, and another floor offers limited acute care services. All areas of the facility were inspected and were not found to have any major violations. Samples were obtained from the facility's water supply.



**Figure 1. REPORT OF GI OUTBREAK  
AT A MULTICARE FACILITY**



### Laboratory

On October 31, 2003 *Norovirus (Norwalk-like agent)* was identified by reverse-transcriptase polymerase chain reaction (RT-PCR) assay, from seven out of seven submitted stool samples sent to the State Laboratory. No bacteria or parasites were found in these specimens. Findings from a sample from the facility's water were within normal limits. The Crystal Light cultures revealed *Pseudomonas paucimobilis* and *Candida species (not albicans)*. From the ice scoop was isolated, *P. Paucimobilis* and *Corynebacterium species (not diphtheriae nor jeikeium)*

### Discussion

The cluster of gastroenteritis in this facility was most likely due to a *Norovirus (Norwalk-like viruses)*. Noroviruses are the most common etiologic agent of non-bacterial gastroenteritis outbreaks. They are highly contagious, and it is thought that an inoculum of as few as 10 viral particles may be sufficient to infect an individual. The mode of transmission is most commonly fecal-oral (via contaminated food/water or person-to-person), although contact and airborne transmission from fomites have also been suggested in healthcare settings. The incubation period for *Norovirus* varies from 10 to 50 hours with a mean incubation period of 24-48 hours. The period of communicability is during the acute stage of dis-

ease and up to 48 hours after diarrhea resolves. Symptoms usually last 24-60 hours.

Rapid institution of infection control precautions resulted in the culmination of this outbreak. Notification to the OEDC of the gastroenteritis outbreak resulted in a rapid laboratory identification of the etiologic agent. Laboratory specimen should be collected during the acute phase of illness (i.e. within 48-72 hours after onset) while the viral excretion is highest.

Even though the findings in Crystal Light and ice scoop were most likely not related to the outbreak, it is important for all residential and healthcare facilities to practice good hygiene in handling food and drinks, and ensure their proper storage. It is also important for healthcare providers to be vigilant about good hand hygiene, be aware of cluster of diseases, and immediately report suspected cases to the OEDC.

### References:

1. Chin, J, Control of Communicable Diseases Manual. 17<sup>th</sup> Edition. Washington, DC, American Public Health Association, 2000.
2. <http://www.cdc.gov/od/oc/media/fact/norwalkv.htm>
3. <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5009a1.htm>
4. Smith, P, Ransack, P. Infection prevention and control in the long term-care facility. American Journal of Infection Control **1997**; 25: 505-506.



## **Reducing Births to Teens in Miami Dade County**

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Women's Health Program**

Teenage birth rates in this country have been falling steadily over the past decade, but their birth rates in the United States remain substantially higher than rates in other developed countries. Birth rates for teenagers were at historic low levels in 2001, and rates have declined steadily since reaching a peak in 1991. During the last decade, from 1991–2001, the overall rate for teenagers fell 27 percent (3 percent annual decline), from 61.8 per 1,000 teenagers aged 15–19 years in 1991, to 45.3 in 2001<sup>[1]</sup>.

This is a positive trend, but despite the recently declining teenage pregnancy rates, 35% of teenage girls get pregnant at least once before they reach age 20; resulting in more than 850,000 teen pregnancies a year<sup>[2,3]</sup>. Therefore, the United States has the highest rate of teenage pregnancy in the fully industrialized world<sup>[4]</sup>. Pregnancies in teens, and our culture of adolescent sexuality are social issues that have been of tremendous concern among public health professionals for a long time.

Although here in Florida teenage birthrates have also declined, more efforts are needed to sustain this rate of decline. In Florida residents, live births in women aged 18 and under accounted for 7% of the total births in year 2002<sup>[5]</sup>. State birth rates in teens aged 15-19 dropped from 85.7 per 1,000 in 1970, to 44.4 in year 2002<sup>[5]</sup>. However, Florida birth rates in 2002, in women aged 18 years and under, continued to be higher in non-white mothers (11.6%) than in white mothers (5.8%). The birth rates for the youngest mothers in Florida, aged 10 to 14 dropped from 2.0 in 1991, to 0.8 in year 2002.

In Miami Dade County, the birth rate in teens aged 15-19 was 39.4 per 1,000 in 2002. More specifically, live births to teens aged 18-19 accounted for 64.7% of all births in teens. Overall, the birthrate in teens has declined over the past eight years in Miami Dade.

Teenaged mothers are less likely to get or stay married, and to complete high school or college. They

are also more likely to require public assistance and to live in poverty than their peers who are not mothers. Infants born to teenaged mothers, especially mothers under age 15, are more likely to suffer from low birth weight, neonatal death, and sudden infant death syndrome. Furthermore, these infants may be at greater risk of child abuse, neglect, and behavioral and educational problems at later stages. Clearly, for the sake of these very young mothers and their babies, the problem of births in girls 10 to 14 years deserves special attention<sup>[6]</sup>.

The implications of the high rates of teenage births in Florida are far-reaching. The social and economical consequences of unintended pregnancies in teenagers are costly and occur frequently. Socially, the costs can be measured in unintended births, reduced educational attainment and employment opportunity, greater welfare dependency, and increased potential for child abuse and neglect. Economically, health care costs are increased. An unintended pregnancy, once it occurs, is expensive no matter what is the outcome<sup>[6]</sup>. For all of these reasons, the Department of Health of the State of Florida has declared each birth to a teen aged 10-14, a sentinel event.

### **Preventing Teen Pregnancies in Miami Dade County**

The Healthy People 2010 goal for the Family Planning focus area is to improve pregnancy planning and spacing, and prevent unintended pregnancies by year 2010<sup>[7]</sup>. Of these, lowering pregnancy and births in teenagers are most urgent. Therefore the Miami- Dade County Health Department Women's Health Program will implement the ENABL Program (Education Now and Babies Later) in three middle schools in Dade County targeting preteens aged 11-14 years.

The objectives of this abstinence-based program is to help preteens fulfill their natural curiosity about sex, and increase their ability to meet their needs for information and advice in healthy ways.





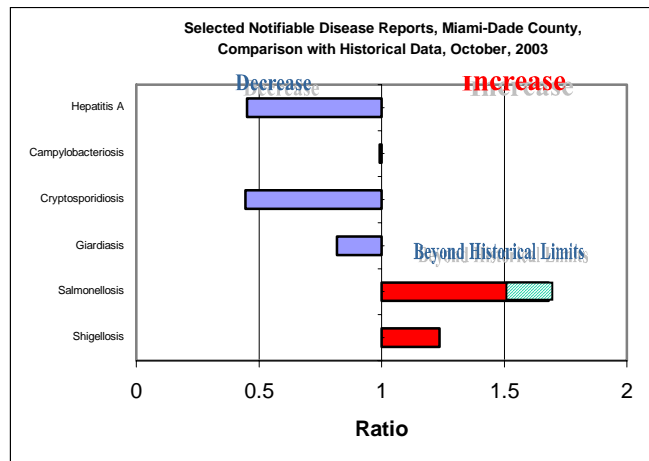
The program will also assist preteens in coping with social pressures by developing skills they can use, and to effectively say “no” to behaviors in which they do not wish to engage. As preteens are often curious about sexual behavior, the ENABL program is usually well received, and “enables” preteens to feel confident that they can control their own lives. The program includes topics such as peer pressure, problem solving and decision-making skills, thinking ahead, and issues of self-esteem. It also includes opportunities for students to discuss or explore these topics, to role-play, and learn behavior for difficult situations <sup>[8]</sup>.

The program will be funded and taught by a team of health professionals from the Women’s Health Program, and will begin in three middle schools. The plan is to select three schools with the same feeder pattern. This will allow tracking outcomes, by comparing these schools before and after the application of the program. The selection of schools is in progress and training of the teaching staff is about to start. This project will also link with other MDCHD programs, such as the WIC School Health Teen Pregnancy Prevention Program, and with community partners in the churches and the county government. We are hopeful that we can expand this program if it shows the expected positive results, and are grateful to the Miami-Dade County Schools for their support and guidance.

## References

1. Hamilton Brady, Sutton P., Ventura S. (August 4, 2003). Revised Birth and Fertility Rates for the 1990s and New Rates for Hispanic Populations, 2000 and 2001. National Vital Statistics Report. Volume 51 Number 12.
2. National Campaign Analysis of Henshaw, S.K. (2003). U.S. Teenage Pregnancy Statistics with Comparative Statistics for Women Aged 20-24. New York: The Alan Guttmacher Institute.
3. Henshaw, S.K. (2003). U.S. Teenage Pregnancy Statistics with Comparative Statistics for Women Aged 20-24. New York: The Alan Guttmacher Institute.
4. Singh, S., & Darroch, J.E. (2000). Adolescent pregnancy and childbearing: Levels and trends in developed countries. Family Planning Perspectives. 32(1), 14-23.
5. State of Florida Department of Health. Florida Vital Statistics Annual Report. 2002.

6. Health Council of South Florida Inc. (2001). Miami Dade County Healthy Start Coalition. Need Assessment 2001. Downloaded from <http://www.healthcouncil.org/publications/healthystart/powerpoint.pdf>. October 9, 2003
7. Office of Disease Prevention and Health Promotion. Healthy People 2010. Family Planning. Focus Area Nine. 9-3 to 9-32.
8. Howard Marion, Mitchell Marie. (1996). Postponing sexual involvement an educational series for preteens. Adolescent Reproductive Health Center. 1-3.



\*Ratio of current month total to mean of 15 month totals (from previous, comparable, and subsequent month periods for the past 5 years).

## To report diseases or for information:

### Office of Epidemiology and Disease Control

Childhood Lead Poisoning Prevention Program (305) 623-3565  
Hepatitis (305) 324-2490  
Other diseases and outbreaks (305) 324-2413

HIV/AIDS Program (305) 324-2459  
STD Program (305) 325-3242  
Tuberculosis Program (305) 324-2470  
Special Immunization Program (786) 845-0550

Nights, weekends, and holidays  
(305) 377-6751



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# Monthly Report

## Selected Reportable Diseases/Conditions in Miami-Dade County, October 2003

Diseases/Conditions	2003 this Month	2003 Year to Date	2002 Year to Date	2001 Year to Date	2000 Year to Date	1999 Year to Date
AIDS <sup>Provisional</sup>	102	904	927	1076	1150	1196
Animal Rabies	0	0	0	1	0	0
Campylobacteriosis	13	115	82	104	131	120
<i>Chlamydia trachomatis</i>	231	3403	4072	3063	2646	3583
Ciguatera Poisoning	0	0	2	0	2	0
Cryptosporidiosis	2	11	8	10	28	21
Cyclosporiasis	0	1	1	0	0	0
Diphtheria	0	0	0	0	0	0
<i>E. coli</i> , O157:H7	0	0	0	2	3	5
<i>E. coli</i> , Non-O157	0	3	1	1	0	0
<i>E. coli</i> , Other	0	0	0	0	0	0
Encephalitis (except WNV)	0	0	1	0	0	0
Encephalitis, West Nile Virus	1	5	1	0	0	0
Giardiasis, Acute	17	154	172	214	200	124
Gonorrhea	106	1448	1730	1573	1769	2463
Granuloma Inguinale	0	0	0	0	0	0
Hepatitis A	6	52	129	156	86	79
Hepatitis B	2	45	37	54	99	22
HIV <sup>Provisional</sup>	183	1492	1690	1442	1481	1711
Lead Poisoning	24	214	250	213	354	276
Legionnaire's Disease	0	5	0	3	0	0
Leptospirosis	0	0	0	0	0	1
Lyme disease	0	3	2	6	4	0
Lymphogranuloma Venereum	0	0	0	0	0	0
Malaria	3	12	10	14	21	16
Measles	0	0	0	0	0	0
Meningitis (except aseptic)	0	7	5	9	15	9
Meningococcal Disease	1	4	11	15	24	14
Mumps	0	0	0	0	1	2
Pertussis	0	9	6	1	7	11
Polio	0	0	0	0	0	0
Rubella	0	0	0	0	0	0
Rubella, Congenital	0	0	0	0	1	0
Salmonellosis	60	441	256	244	224	261
Shigellosis	23	263	207	117	186	161
<i>Streptococcus pneumoniae</i> , Drug Resistant	13	105	84	142	159	69
Syphilis, Infectious	29	159	179	166	115	60
Syphilis, Other	74	862	918	719	617	606
Tetanus	0	0	0	1	1	0
Toxoplasmosis	1	9	15	11	0	2
Tuberculosis <sup>Provisional</sup>	15	173	191	186	215	217
Typhoid Fever	0	4	3	0	2	16
<i>Vibrio cholera</i> Type O1	0	0	0	0	0	0
<i>Vibrio cholera</i> Non-O1	0	0	1	0	0	0
<i>Vibrio</i> , Other	0	1	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.



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