

HOT WASH for NOROVIRUS May – June 2006

Lessons Learned:

- To assure a clear understanding of NHCHD's role in an investigation, the goal and the necessary requirements in an outbreak event
- The role of the facility in an outbreak
- Speak directly to the **executive director** of facility daily
- To assure the facility is aware of the authority NHCHD has in protecting the citizens of the county
- Assure facility is clear on the importance of requests made by NHCHD
- 24 Hour Communicable Disease Hot Line number is available to all facilities
- Quickly determine the type of interview questions needed for staff and residents
- CD team to conduct interviews at facility and EPI team to assist if necessary
- The importance of food history
- Importance of stool collection, the process, requirements and collection as a priority
- Speak directly to the executive director of facility from day one
- CD to call directly to the lab for any information regarding stool cultures
- Assure the facility knows the case definition regarding diarrhea for accurate reports of the ill.

From EH:

1) HANDS MUST BE WASHED FREQUENTLY & VIGROUSLY BY ALL STAFF & RESIDENTS

AFTER: Toilet visits

Cleaning up vomitus or diarrhea

Changing diapers or bedding

Handling soiled clothes or linens

Contact with a symptomatic person

BEFORE: Eating

Preparing food

Serving food to patients

2) PROPER HAND WASHING PROCEDURES:

- a. Wet hands with warm running water
- b. Apply soap
- c. Clean under fingernails & between fingers
- d. Vigorously scrub hands & arms for at least 20 seconds
- e. Rinse thoroughly under warm running water
- f. Dry hands & arms with a single-use paper towel

3) Complete interviews for all ill residents:

- a. Submit to New Hanover County Communicable Disease Nursing Staff

4) Employee Protection:

- a. Gloves, Masks, Aprons, & Booties
- b. Nails must be cut short (residents & staff)
- c. No jewelry should be worn

- d. Hands must be washed before & after the use of gloves
 - e. All gloves, masks, aprons, & booties must be changed in between each resident
- 5) The following items must be sanitized with 1,000 ppm bleach, Virkon, or steam cleaned:
- | | | | |
|-------------------|-----------|-----------|-----------------|
| Floors | Decks | Walls | Toilet Fixtures |
| Plumbing Fixtures | Rugs | Carpets | Bedding |
| Curtains | Furniture | Wallpaper | Decorative |
- Objects
- | | | | |
|------------------|------------|-------------|-------------------|
| Nursing Stations | Charts | Showers | Bathrooms |
| Laundry | Hallways | Lobbies | Light Switches |
| Telephones | Door Knobs | Wheelchairs | Therapy Equipment |
| Cars/Vans | Tables | Handrails | Personnel Items |
- 6) Replace all patient toothbrushes and close all water fountains and community ice bins.
 - 7) Bedding items including comforters must be washed frequently and pillows must be changed out or covered in plastic.
 - 8) All common areas must be closed and all group activities should be cancelled.
 - 9) All meals from the kitchen must be delivered to each room and only single service items are to be used.
 - 10) Staff should be assigned to work with either well or sick residents, but should not care for both groups.

Helpful and Positive approaches:

- Time line updated daily
- EPI Team called
- EH played key role
- Most residents had private rooms
- Cohorted the residents
- Signage upon entering building regarding virus
- Daily contact with facility
- Daily reminders for good hand washing on food trays
- Steam clean carpet
- Pod diagram of sick residents
- The ill were treated at the facility by staff
- Facility acted upon all recommendations from NHCHD
- Praise the facility for their efforts and understanding of the difficulty of the situation

See attached sheet for PHRST:

**Davis Health Care Center- Champion Site
Norovirus Outbreak
List of Possible Questions**

- 1. What happened?**
- 2. What is causing this illness?**
- 3. What is Norovirus?**
- 4. How common is Norovirus infection?**
- 5. What are the symptoms?**
- 6. How many people are sick?**
- 7. How many people have died?**
- 8. Who's in charge?**
- 9. What is the Department of Health doing?**
- 10. Is the situation under control?**
- 11. How is this illness spread? Is it contagious?**
- 12. Who gets Norovirus infection?**
- 13. How can we prevent it from spreading?**
- 14. What should we do if we visited the Assisted Living Center?.**
- 15. What should we do if we get sick?**
- 16. What if someone else in the house gets sick a couple of days later?**
- 17. How are these infections diagnosed?**
- 18. If I have had a Norovirus infection in the past, can I get it again?**
- 19. Where can I get more information?**
- 20. Why wasn't this prevented from happening?**
- 21. Who caused this to happen?**
- 22. Who is to blame?**
- 23. Could this have been avoided?**
- 24. What steps are being taken to avoid a similar event?**
- 25. What lessons have you learned?**
- 26. What does this all mean?**

What is “Norovirus” ?		
Key Message Fact 1	Key Message Fact 2	Key Message Fact 3
It is a group of viruses that cause intestinal illness.	The virus is highly contagious.	The most common symptoms are nausea, vomiting, diarrhea, and some stomach cramping.
Supporting Fact 1-1	Supporting Fact 2-1	Supporting Fact 3-1
It is often referred to as “stomach flu”	It is spread easily from person to person.	It is not uncommon for people to vomit many times.
Supporting Fact 1-2	Supporting Fact 2-2	Supporting Fact 3-2
If people are infected with the virus, they will most likely get sick very quickly once symptoms start to appear, and they will feel very ill.	People can also become infected through contact with contaminated food / water / contaminated surfaces.	Some people may run a low fever, feel tired and achy, or have a headache.
Supporting Fact 1-3	Supporting Fact 2-3	Supporting Fact 3-3
Most people feel better within 1 or 2 days, although they may still be contagious for up to 3 more days as they recover.	People who are sick or recovering should not prepare foods for other people.	People can become dehydrated very quickly and need medical attention.

Communicable disease outbreak in assisted living/longterm care facility, New Hanover
6/2/06
Carol Schriber, NC DHHS Public Affairs, 919-733-9190

DRAFT RELEASE

New Hanover County Health Department is helping an assisted living facility in New Hanover County to control an outbreak of intestinal illness that has sickened 45 people this week, including residents, staff and two family members who do not live at the facility. The General Communicable Disease Control Branch of the N.C. Division of Public Health is assisting with the outbreak investigation and control measures.

<QUOTE FROM DAVID RICE>

Symptoms of the illness include nausea, diarrhea, and vomiting, along with rapid person-to-person spread. Medical tests are being conducted and samples sent to the State Laboratory of Public Health for positive identification of the disease agent. Food-borne illness has been ruled out because those who have become ill did not all eat the same food.

The facility, with the assistance of the New Hanover County Health Department, has acted quickly to keep other residents, staff and visitors from becoming ill. Control measures include thorough handwashing, keeping sick people separate from those who do not have symptoms, and thorough cleaning of the facility, from doorhandles to floors and all other surfaces.

Most gastrointestinal illnesses can be spread by coming in contact with a sick person's vomit or stools. That can happen in several ways, such not washing your hands properly before eating and drinking or preparing food; touching contaminated surfaces or objects, and then placing their hand in their mouth; or having direct contact with another person who is infected (for example, when caring for someone who is ill).

Gastrointestinal illnesses are often very contagious and can spread rapidly throughout facilities such as day-care centers or nursing homes. People can prevent spread of these illnesses by washing hands thoroughly, especially after vomiting or using the bathroom, handling soiled items, or caring for an ill person; washing hands thoroughly before eating, handling or preparing food; not sharing drinking or eating utensils; keeping living areas clean; and following proper food handling procedures.

Contact...

##



NEW HANOVER COUNTY
HEALTH DEPARTMENT
2029 SOUTH 17TH STREET
WILMINGTON, NC 28401-4946
TELEPHONE (910) 798-6500 FAX (910) 341-4146



**Suspected Outbreak of Norovirus at Davis Healthcare –
Champion Site**

Beginning May 28, 2006 (Sunday) there have been reports from the Champion Assisted Living facility at Davis Healthcare of a fast-spreading gastro-intestinal illness. NHCHD staff have been in contact with Davis staff, have made site visits, and have been in contact with state public health staff. NHCHD staff suspect that the illness is being caused by a *Norovirus*, although that has not yet been laboratory confirmed (as of 6/2/06).

The following is for NHCHD staff to have handy in case you get a phone call from someone in regard to this outbreak. If the caller is with the media, please refer them to Scott Harrelson (and ...???)

Common Q & A:

What is “Norovirus” ?

- It is actually a group of viruses that cause the “stomach flu” in people. These viruses are highly contagious. Because this is viral, antibiotics are **not** effective in treatment.
- Although the ill person may feel very ill, this virus does not cause serious illness.

What are the symptoms?

- Nausea and vomiting (can be severe)
- Watery diarrhea, possibly with stomach cramping
- Some people may run a low fever, feel tired and achy, or have a headache
- Symptoms usually only last 1 to 2 days

How is it spread?

- Person to person, or through contact with contaminated food / water / contaminated surfaces

What is the best prevention?

- Wash hands often and well, especially after using the toilet, changing a diaper, or caring for someone who is ill
- Clean and disinfect surfaces immediately after an episode of illness using a bleach based household cleaner

- Immediately remove and wash all clothes and bed linens that may be contaminated after an episode of illness (hot water and soap)

Could this be food related?

- Environmental Health staff collected food samples, but at this time it is not suspected to be a food-borne illness. Given that people have been getting sick all week, it is not likely to be food related. Drinking water is not suspected.
(more on back)

I visited with a friend or family member this week. Do I need to be worried that I will get sick?

- Noroviruses spread very quickly, and do not incubate very long. Typical incubation time (the time between exposure and getting sick) is typically 24 to 48 hours, and can be as early as 12 hours after exposure.
- If people are infected with the virus, they will most likely get sick very quickly once symptoms start to appear, and they will feel very ill. It is not uncommon for people to vomit many times.

What is the best care or treatment for a sick person?

- Most people feel better within 1 or 2 days, although they may still be contagious for up to 3 more days as they recover.
- The best care is trying to keep the patient hydrated since they will be losing fluid due to vomiting and diarrhea. Dehydration may be an issue, and medical attention may be required for someone who becomes very dehydrated.
- The people at greatest risk for medical attention are the very young, the very old, and those with weakened immune systems.
- People who are sick or recovering should not prepare foods for other people, and should practice good handwashing and hygiene practices to prevent spreading to other people.

What is NHCHD doing about this?

- NHCHD has been in close contact with the staff at Davis Healthcare, the hospital, and state public health offices.
- Investigation of this outbreak began rapidly upon notification of the illness.
- NHCHD has educated Davis staff about infection control measures (keeping sick people and well people separated, avoiding group eating, no new admissions, limiting visitors, etc).
- NHCHD will continue to monitor and assist until illness ends

(This can be removed if lab confirmation is received)

Why can't the health department confirm the virus or bacteria that is making people ill?

- Specimens have been sent to the state lab and are being analyzed.
- Several bacterial agents have already tested negative.
- Regardless of the type of viral infection, the recommendations for treatment and prevention remain the same.



NEW HANOVER COUNTY
HEALTH DEPARTMENT
2029 SOUTH 17TH STREET
WILMINGTON, NC 28401-4946
TELEPHONE (910) 798-6500 FAX (910) 341-4146



Guidelines to Prevent the Spread of Noroviruses

Noroviruses are a group of viruses that cause the “stomach flu” in people. Because they are viral, they are not affected by treatment with antibiotics. There are precautions that should be taken to avoid illness and prevent the spread from person-to-person. Symptoms of norovirus illness typically appear 24 to 48 hours after contact, but may be as rapid as 12 hours after contact.

Symptoms usually include:

- nausea and vomiting
- watery diarrhea, possibly with stomach cramping
- some people may run a low fever, or may feel achy and tired
- symptoms usually last 1 to 2 days

The illness usually begins very suddenly, and the infected person may feel very sick and vomit many times a day. It is usually not serious and people get better on their own without treatment, but the infected person may need special attention to avoid dehydration from loss of fluids through vomiting and/or diarrhea. Usually those in need of medical attention for dehydration are very young, very old, or have weakened immune systems. Most people feel better within 1 to 2 days. There is no antibiotic treatment available for norovirus infection. Drinking fluids is most often the best way to handle the illness.

How do people become infected?

Noroviruses are passed in the stool or vomit of infected people, and are easily spread to other people. People can become infected in several ways, including:

- eating food or drinking liquids that are contaminated with the virus
- touching surfaces or objects contaminated with the virus, and then putting their hand or fingers in their mouth
- having direct contact with a person who is ill (eg. caring for someone who is ill)

How do I prevent the spread?

- Wash your hands often and well, especially after using the toilet, caring for someone who is ill, or changing diapers
- Clean and disinfect surfaces immediately after an episode of illness using a bleach-based household cleaner (other cleaners are less effective)

- Immediately remove and wash clothes or bed linens that may be contaminated after an episode of illness (use hot water and soap)
- Flush or discard any vomitus or stool in the toilet immediately after an episode of illness, and make sure the surrounding area is clean

It is important to note that anyone can become infected with these types of viruses, and that people will generally be contagious (able to spread to others) from the moment they feel ill until at least 3 days after recovery.



NEW HANOVER COUNTY
HEALTH DEPARTMENT
2029 SOUTH 17TH STREET
WILMINGTON, NC 28401-4946
TELEPHONE (910) 798-6500 FAX (910) 341-4146



Attachment II

EH Recommendations

11) HANDS MUST BE WASHED FREQUENTLY & VIGOROUSLY BY ALL STAFF & RESIDENTS

- | | |
|-----------------------------------|-----------------|
| AFTER: Toilet visits | BEFORE: Eating |
| Cleaning up vomitus or diarrhea | Preparing food |
| Changing diapers or bedding | Serving food to |
| patients | |
| Handling soiled clothes or linens | |
| Contact with a symptomatic person | |

12) PROPER HAND WASHING PROCEDURES:

- Wet hands with warm running water
- Apply soap
- Clean under fingernails & between fingers
- Vigorously scrub hands & arms for at least 20 seconds
- Rinse thoroughly under warm running water
- Dry hands & arms with a single-use paper towel

13) Employee protection for vomitus and diarrhea:

- Gloves, Masks, Aprons, & Booties
- Nails must be cut short (residents & staff)
- No jewelry should be worn
- Hands must be washed before & after the use of gloves
- All gloves, masks, aprons, & booties must be changed in between each resident

14) All affected areas contaminated with vomitus or diarrhea must be sanitized with 1,000 ppm bleach, Virkon, or steam cleaned.

If more than 2 people become ill within 4 hours:

- Report illness to the New Hanover County Health Department at 798-6682
- Replace all patient toothbrushes and close all water fountains and community ice bins.
- Bedding items including comforters must be washed frequently and pillows must be changed out or covered in plastic.
- All common areas must be closed and all group activities should be cancelled.
- All meals from the kitchen must be delivered to each room and only single service items are to be used.
- Staff should be assigned to work with either well or sick residents, but should not care for both groups.



NEW HANOVER COUNTY
HEALTH DEPARTMENT
2029 SOUTH 17TH STREET
WILMINGTON, NC 28401-4946
TELEPHONE (910) 343-6500 FAX (910) 341-4146



May 31, 2006

To: Davis Healthcare Center – Champion Site
From: The Communicable Disease Staff of New Hanover County Health Department

We realize that the last several days have been full of challenges and extra precautions in preserving the health of your residents and staff. We commend you on your efforts, and we are glad that you contacted our office to provide information and support during this event.

Although the causative organism has not been isolated, we are suspicious of a specific, highly contagious virus which usually does not cause serious illness. Re-hydration of the affected individuals is the primary supportive treatment for their recovery.

We are providing a fact sheet from the Centers for Disease Control and Prevention (CDC) about Norovirus, the organism we suspect is causing the widespread gastroenteritis in your facility. Additionally, we would like to highlight for following actions which will help you limit the continued transmission of illness:

- 1) Initiation of Contact Precautions, if this has not already been implemented, according to your agency policy and in accordance with the CDC guidance provided as an attachment to this letter
- 2) Cohorting patients with suspected illness or temporarily placing them in private rooms
- 3) Daily cleaning of all hard, non-porous environmental surfaces in the facility, especially doorknobs, bathrooms and furniture, with an approved disinfectant
- 4) Limiting/restricting contact between individuals in common areas

If the causative organism is Norovirus, normal daily activities may be resumed ninety-six hours (4 days) after onset of symptoms in the last person to become ill.

In conclusion, we want to re-iterate our support of all you have done and are doing to prevent further illness, and to restore health to your residents and staff. Thank you for collaborating with New Hanover County Health Department in your efforts to stop this outbreak.

Your Health is Our Priority.
NHCHD Communicable Disease Staff



NEW HANOVER COUNTY
HEALTH DEPARTMENT
2029 SOUTH 17TH STREET
WILMINGTON, NC 28401-4946
TELEPHONE (910) 798-6500 FAX (910) 341-4146



Davis Health Care Center- Champion Site
Norovirus Outbreak
May – June 2006

Final Report

Introduction: *(This is where you would describe how you first learned you had a problem)*

On Sunday, May 28, 2006 at 3:00 p.m. the New Hanover County Health Department Communicable Disease (CD) Program Coordinator was contacted by the Infection Control (IC) Nurse at Davis Health Care Center - Champion Site. It was reported that approximately nineteen (19) people had become ill with vomiting and diarrhea around midnight the preceding night. Residents and staff of the facility totaled 198 people. The IC nurse was concerned that the illness was linked to the evening meal served on Saturday, May 27, 2006 at the facility. Four (4) residents had already been admitted to the hospital for administration of IV fluids. The CD nurse asked if any of the kitchen staff had reported illness such as vomiting or diarrhea; the IC nurse stated there had been no reports. The CD nurse advised meticulous hand washing for those persons who were symptomatic as well as those persons caring for the sick. The IC nurse was told that any symptomatic employee, especially kitchen staff should be excluded from work. The CD nurse contacted the Environmental Health (EH) supervisor who recommended food sample collection from the past week, including the suspect meal. This recommendation was provided to the IC nurse. The EH supervisor and CD Program Coordinator suspected this was a food borne outbreak and determined it was not necessary to notify other members of CD or EH teams at this time. The IC nurse was given the 24-hour Communicable Disease Hot Line number and encouraged to call if conditions change.

Methodology

Epidemiologic Study: *(This is where you would describe what you did as CD/Epi)*

Tuesday, May 30, 2006 after consultation with General Communicable Disease Control Branch (GCDC) and with their assistance, a customized questionnaire was created and faxed to the facility. There now were a total of 25 sick residents and staff. It was suspected by GCDC that Norovirus was the infectious agent and five (5) stool cultures were required for testing. Friday, June 2, 2006, day six (6) of the outbreak with a total of 45 people sick, the entire NHCHD Epidemiology (EPI) Team was activated due to the complexity of the event.

The local hospital infection control department was aware of the outbreak and was alerted to notify CD of any increase in syndromic activity. CD staff maintained close communication with the facility by way of site visits, meetings with management staff during which updates and recommendations were provided, and daily phone contact with management staff to ascertain current information in new cases of illness and those who remained symptomatic and to reinforce control measures. Management was advised to close the facility to new admissions, to restrict movement of residents inside and outside of the facility, to restrict visitation from the public, and to restrict staff from working in another building on the campus. CD staff made the following requests of facility management:

- Names and room numbers of sick residents
- Facility diagram for mapping of sick residents
- Stool specimens from a minimum of five sick residents
- Shift assignments of sick employees worked
- Menus for 5/25/06 – 5/27/06

The *Statewide Program of Infection Control Education (SPICE)* was contacted for additional guidance. The Health Promotions office of NHCHD created Gastro-Intestinal fact sheets for staff, residents, and family members of the facility and Talking Points in the event of media contact. On June 8, 2006 CD learned from facility management that a resident had died as a result of a Gastro-Intestinal virus. In addition, a resident was transferred to an adjacent county hospital and the CD nurse for that county was notified.

Environmental Investigation: *(This is where you describe what you did as Environmental Health Services (EHS))*

EH Supervisor and assistant made a site visit to facility Tuesday, 5-30-06. An inspection of the facility was completed. Food samples from suspect food was delivered to NHCHD.

Recommendations:

- Sanitize entire building with approved cleaning solution, paying special attention to bathrooms and doorknobs.
- Cohort residents
- See Attachment I for additional recommendations

Over the course of the outbreak, numerous site visits were made to inspect and to assess compliance with written recommendations. See Attachment II.

Laboratory: *This is where you would describe what you did as lab (i.e., # of specimens submitted to where)*

No food specimens were submitted for testing per GCDC.

- Nine (9) stool specimens were collected and sent to State Laboratory of Public Health (SLPH) - 2 of which represented a person with recovering symptoms
- All specimens were negative for enterics
- Seven (7) specimens were positive for Norovirus
- One (1) specimen was indeterminate
- Of the ten (10) water samples collected, all were negative

Results

Epidemiology Study: *This is where you would put the results of your cohort study, (i.e., Epi Curve, results of patient questionnaire, signs and symptoms table and percentages by cases, attack rate table)*

See Attachment III for the EPI Curve for this outbreak. Analysis of questionnaires is pending.

Environmental and Laboratory Study Results: *This is where you would put the results of the food samples and any other environment results*

No food samples submitted for testing

Conclusions: *(This is where you would, as an Epi team, decide on what you concluded (i.e., Ready to eat foods present the greatest potential for contamination...whatever the conclusion)*

The NHCHD EPI Team managed the overall response to this outbreak. In consideration of the course of events, and with consultation from Dr. Pam Jenkins at GCDC, our theory is that a food handler infected with Norovirus served food thereby infecting residents at the facility. The infected residents became ill with diarrhea and vomiting, and subsequently the virus spread by person-to-person contact. We were unable to determine the source of the outbreak.

Recommendations: *Put any recommendations*

From a disease prevention perspective, the EPI Team recommends:

15) Hands must be washed frequently & vigorously by all staff and residents

AFTER: Toilet visits
Cleaning up vomitus or diarrhea
Changing diapers or bedding
Handling soiled clothes or linens
Contact with a symptomatic person

BEFORE: Eating

Preparing food
Serving food to patients

16) Proper Hand Washing Procedures:

- a. Wet hands with warm running water
- b. Apply soap
- c. Clean under fingernails & between fingers
- d. Vigorously scrub hands & arms for at least 20 seconds
- e. Rinse thoroughly under warm running water
- f. Dry hands & arms with a single-use paper towel

3) Notify NHCHD in the event of a similar outbreak.