

# Norovirus in LTCFs

Philadelphia Department of  
Public Health  
Division of Disease Control



*Updated August 2010*

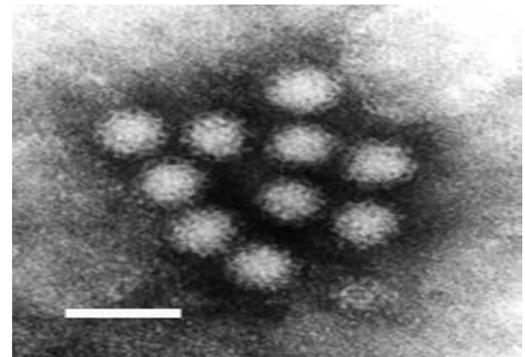


# Overview

- ◆ What is Norovirus?
- ◆ Tracking Norovirus
- ◆ Economic Impact
- ◆ How to Prepare for Norovirus Season
- ◆ Infection Control Recommendations

# What is Norovirus?

- ◆ Noroviruses are caused by RNA viruses
- ◆ Leading cause of acute gastroenteritis (“Stomach Flu”) outbreaks
- ◆ Spreads easily between persons
- ◆ Usually not a serious illness



# The Headlines

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## Harrah's Cherokee battles Norovirus

January 22, 2010  
By Scott

*Source: Harrah's Cherokee release*

Harrah's Cherokee Casino & Hotel continues to work with the Jackson County Health Department to prevent further spread of the Norovirus that health officials confirmed on Thursday, Jan. 21.

"While the virus wasn't identified officially until today, Harrah's Cherokee has been cleaning and disinfecting for a week with that outcome in mind," said General Manager Darold Londo. "With guidance from the health department, we continue regular, repeated cleaning in all public areas, our shuttle buses and hotel rooms."

"The Jackson County Health Department has been a valuable partner in these efforts, and we thank officials for their continued assistance," he said.

The Seattle Times Company

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## 350 passengers sickened on Caribbean cruise

Passengers on Celebrity Mercury suffer upset stomachs, vomiting and diarrhea during Caribbean cruise

By **BRUCE SMITH**  
*The Associated Press*

CHARLESTON, S.C. — About 350 people who got sick a week into a Caribbean cruise were responding well to medicine, the cruise line said Tuesday.

Celebrity Cruise spokeswoman Cynthia Martinez said 326 of the more than 1,800 passengers on the Celebrity Mercury began

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# Norovirus Signs and Symptoms

- ◆ Incubation period between 24 and 48 hours
- ◆ Symptoms usually last 24 to 72 hours
- ◆ Older adults and children are most at risk for complications





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# Signs and Symptoms

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- ◆ Acute-onset vomiting
- ◆ Watery, non-bloody diarrhea
- ◆ Abdominal cramps
- ◆ Nausea
- ◆ Low-grade fever
- ◆ Headache
- ◆ Chills
- ◆ Muscle aches
- ◆ General sense of fatigue



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# How do you get Norovirus?

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- ◆ Noroviruses are highly contagious
- ◆ Spread through
  - Fecal-oral route
  - Food/water sources
  - Less often by airborne exposure
- ◆ Someone can spread the virus before they have symptoms and up to two weeks after symptoms resolve



# Diagnosis and Treatment

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- ◆ Diagnosed primarily by clinical symptoms
  - Stool
  - Emesis
  - Environmental swabs
- ◆ Reference labs perform Reverse Transcription Polymerase Chain Reaction (RT-PCR)
- ◆ Treatment is supportive (e.g. rehydration)
- ◆ No vaccine available

# Monitoring Norovirus in the Community





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# Norovirus Surveillance

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- ◆ Annually outbreaks occur from November to March
- ◆ The Division of Disease Control conducts surveillance through two mechanisms
  - Syndromic
  - Institutional reporting



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# Mandatory Reporting

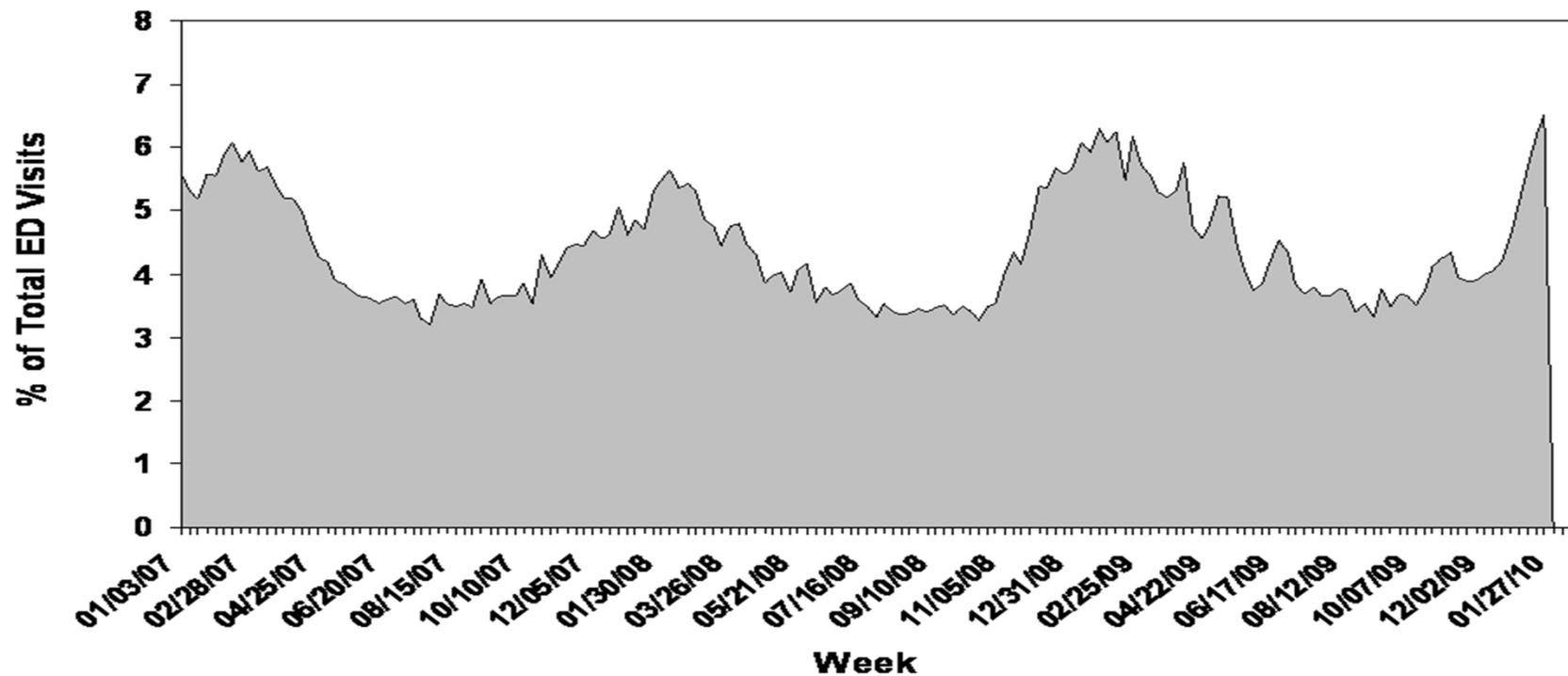
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- ◆ City of Philadelphia Department of Public Health Regulations
  - Section on Reportable Conditions under **(b) Unusual Diseases or Outbreaks**

“The occurrence of any unusual disease or group expression of illness which may be of public concern whether or not it is known to be of communicable nature should be reported. Any outbreak of an illness in an institutional setting, such as, but not limited to schools, daycare centers, hospitals, and nurseries must be reported.”

# Syndromic Surveillance

**Philadelphia Emergency Department (ED) Surveillance for Vomiting Complaints: 2007 – 2010, by Week**





# Institutional Outbreaks



- **Outbreak Definition**
  - At least 3 residents who are experiencing symptoms of norovirus in a 48-hour period
- **Outbreak activities**
  - Institutional and Disease Control tracking of symptomatic cases
  - Establish and institute appropriate Infection control recommendations
  - Environmental health inspection

# Institutional Surveillance

- ◆ 2010 Data

Institution Type	Number of Outbreaks
LTCF	14 (1 repeat)
Hospital	2
Daycare	2
Grade School	2

# Norovirus Outbreaks Costs



# Economic Impact of Norovirus Season

- ◆ Study of the Epidemiology and Cost of Nosocomial Gastroenteritis
  - Three hospital systems in England studied from 2002-2003
  - Total # of units: 177(2,900 beds)
  - Total # of outbreaks: 227(1.33/unit-yr)
  - Affected Population: 2,154 patients (2.21/1,000hospital- days), 1,360 health care staff(0.47/1,000 hospital-days)
  - Causative agent: 63% Norovirus

# Economic Impact of Norovirus Season

- Two main costs
  - Bed-day loss from new admission restriction (5,443)
  - Staff absence from illness
- Total cost of two factors: \$1.01 million per 1,000 beds, \$184 million over the whole year
- Take home point: Unit closure <4 days of outbreak resulted in greater containment 7.9 vs. 15.4 day outbreak duration

# Norovirus Prevention and Control





# Norovirus Prevention and Control

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- ◆ Ensure proper facility supplies
  - e.g. hand sanitizer, soap, EPA disinfectants
- ◆ Provide in-services/education to staff, residents, family/visitors
- ◆ Develop a tracking system for sick residents and staff



# Norovirus Preparation



- ◆ Develop a communication plan
  - Health Department
  - Staff/Residents
  - Family/Visitors
- ◆ Policy development
  - Surrounding exclusion/isolation of staff and residents

# Infection Control for Staff

- ◆ Exclusion
  - Must not return to work for 72 hours after symptoms resolve
- ◆ Strict hand hygiene
  - Before/After each visit with symptomatic residents
- ◆ Contact Precautions
- ◆ Identification of new cases
- ◆ Source reduction





# Infection Control for Administrators

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- ◆ Exclusion for any symptomatic staff
  - Must not return to work for 72 hours after symptoms resolve; symptomatic food handlers must not prepare or serve food for others under any circumstances
- ◆ Exclusion/Isolation of symptomatic residents
  - Residents should be confined to their rooms, and should not use common bathroom facilities or participate in group activities until 72 hours after their symptoms have resolve



# Infection Control for Administrators

- ◆ Administrative Recommendations
  - Active screening/Line list
  - Cancel group activities
  - Limit staff movement between units
  - Closing units, no visitation on affected units
  - Restrict Admissions/Readmissions

# Infection Control for Residents/Visitors

## ◆ Residents

- Observe hand hygiene
- Exclusion/Confinement
- Transfers/Admissions

## ◆ Visitors

- Signage of Illness in facility
- Sick visitors should delay visiting the facility
- Visitation Restriction





# Infection Control for Facilities Management Staff

- ◆ Increased environmental cleaning especially commonly touched surfaces and bathrooms
- ◆ Personal Protective Equipment while cleaning up heavily soiled areas
- ◆ Chlorine bleach solution (1/3 cup bleach mixed in 1 gallon of water)
- ◆ Phenolic-based disinfectants (e.g., Pinesol or Lysol) are effective but require higher concentration

# Infection Control for Facilities Management Staff

- ◆ Heat disinfection for carpet and upholstery (to 60 °C or 140 °F)
- ◆ Quaternary ammonium compounds are **NOT** effective
  - E.g. Rccal, Germex, Hi-Lethol, San-O-Fec, Warden, and Zephiran



# Available Signage



## HELP PROTECT OUR PATIENTS!

Please **DO NOT** visit if you are **ILL**.

**All healthy visitors please:**

- Adhere to facility guidelines
- Wash your hands after arriving and before leaving.
  - ✓ Use warm water and soap
  - ✓ Rub your hands together for at least 30 seconds
  - ✓ Use a clean paper towel to dry your hands and turn off the tap.
  - ✓ A waterless hand sanitizer may be used if a sink is not close by and your hands are not visibly soiled.



Philadelphia Department of Public Health  
Division of Disease Control (215) 685-6740



We presently have a number of ill residents who have symptoms of a stomach virus. As a result, we are currently restricting visitors to floors with ill residents.

Hand washing is the single most important practice to prevent the spread of this virus. Please wash your hands before visiting and leaving our facility.

Please check with a nurse or administrator before proceeding to a floor or if you have any questions. Thank you.



# Available Signage



# Contact Information/References

- ◆ Division of Disease Control
  - 215-685-6741
- ◆ <https://hip.phila.gov>
- ◆ <http://www.cdc.gov>

