

# Preventing Norovirus Transmission on Inpatient Psychiatry

## The Problem

Norovirus is a highly contagious gastrointestinal virus that causes severe nausea, vomiting, and diarrhea, predominantly transmitted during the winter season. It is widespread in the community, and due to the small number of norovirus particles needed to infect a person, the disease has tremendous potential to cause an outbreak in closed communities with close and frequent person-to-person contact (e.g., cruise ships and nursing homes). Deaconess 4 is an adult inpatient locked psychiatry unit designed with multi-bed rooms as well as communal areas hosting group activities and dining. These characteristics make the Deaconess 4 unit vulnerable to rapid and extensive transmission of norovirus from an index case to staff and patients.

The impact of norovirus has been significant in recent years:

- FY 2012: illness among 14 staff and 10 patients; unit closure for 8 days
- FY 2013: illness among 11 staff and 11 patients; unit closure for 23 days, resulting in a loss of approximately 400 patient days
- Increased Emergency Department length of stay for psychiatric patients awaiting inpatient hospitalization
- Increased length of stay for psychiatric patients who become ill with norovirus
- Thus there is significant impact on the cost of care (efficiency) and timeliness of care

## Aim/Goal

The goal of this project was to screen for norovirus symptoms and develop procedures to reduce the risk of spread in this high-risk environment.

## The Team

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Nan Zullo, Information Systems	Mary Jo Brogna, Assoc Chief Nurse

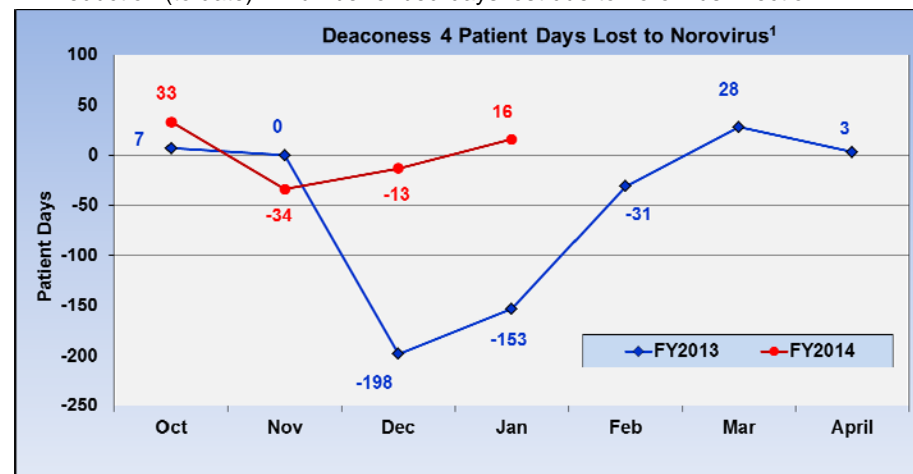
## The Interventions

- Develop a protocol for screening prospective admissions in the ED and patients and staff on Deaconess 4 and definitions of suspected, presumptive, and confirmed norovirus
- Develop an EVS protocol for routine cleaning and for special cleaning with suspected cases
- Enhanced food and hand hygiene practices for patients and staff

- Plan for rapid isolation of suspected cases, including a protocol for transfer to the medical service when no single room is available on Deaconess 4
- Implement rapid polymerase chain reaction (PCR) testing for norovirus
- Establish a common database in Personalized Team Census to track suspected cases, symptom evolution, and resolution

## The Results/Progress to Date

- One confirmed patient case with presumed transmission to one staff member
- Reduction (to date) in number of bed-days lost due to norovirus infection:



<sup>1</sup> Estimated as patient days lower than expected each month during norovirus season

## Lessons Learned

- PCR has improved the certainty of diagnosing or excluding norovirus-related illness, but the turn-around time for test results has been longer than expected. The algorithm to identify and isolate ill patients was adjusted to assume norovirus until the PCR result returns
- A systems perspective is essential to make good decisions about moving patient rooms and units or closing the unit to new admissions

## Next Steps/What Should Happen Next

- Analyze data at the end of norovirus season
- Identify the most effective elements of the bundle intervention
- Evaluate adjunctive interventions related to environment [e.g., UV disinfection]