

REDUCTION OF *Clostridioides difficile* INFECTIONS:

The Human and Technology Relationship to Prevent the Transmission and Spread

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PROBLEM

The Microbiology and Infection Prevention and Control Departments noted an increase in Hospital-onset *Clostridioides difficile* (*C.diff*) Lab ID events in November 2022, with 5 events.

BACKGROUND

Patients who are colonized or infected with *C. diff* continuously shed the pathogen, which can live on environmental surfaces for up to 6 months. These contaminated surfaces provide a route to the transmission and spread of the disease through contact with the hands of an unsuspecting health care worker, patient, or guest.

A Patient Record Flag is a mechanism in which an alert can be assigned in the electronic medical record to patients positive for *C.diff*. This flag indicates patients should be in Contact-Plus isolation. *C.diff* infection flags auto-resolve after 14 days from positive PCR test. The infection flag remains across admissions if the patient is readmitted within 14 days. Physician have access to resolve the infection flag.

'C.diff Clean' notifications are visible to housekeeping team members when patients have an infection flag of *C.diff*. This flag is an indicator to use cleaning products that kill *C.diff* microorganisms.

IMPLEMENTATION

A. The Infection Prevention and Control team initiated a process to place Contact-Plus isolation orders in medical records and place isolation signage on patient doors if not completed by the primary nurse. Education is provided to primary nurse with duration of isolation requirements. A Safety Event is entered if patient was not placed on isolation by the next calendar day.

B. Decisions with the Medical Staff Office were made to restrict resolution of the *Clostridioides difficile* infection flag to Infection Prevention only.

C. An Epic build modification was made so that when a *C.diff* Rule-Out order is placed, the patient is automatically placed on the appropriate isolation

D. The Infection Prevention and Control Team and Environmental Services (EVS) leadership collaboratively decided on the following mitigation measures:

- Cleaning product change** from diluted bleach to Clorox Bleach Germicidal Cleaner made to kill nearly 60 microorganisms in 3 minutes or less.
- Daily Cleaning process change:** EVS leadership and dispatchers received access to an Epic report listing patient rooms on Contact-Plus isolation precautions for *C.diff*. These rooms, as well as all rooms in the Emergency Care Unit and Same-Day surgery units, are cleaned daily with Clorox Bleach Germicidal Cleaner.
- Discharge Cleaning process change:** An EVS manager will inspect the room after discharge clean and send photos of the clean room to Infection Control. Infection Control will jointly inspect the room with the manager during regular business hours prior to the room being marked as clean.
- Soiled linen process change:** Purple bags will be used to return soiled linen to the Linen Services department for adequate disinfection. The color of the bag is a visual indicator to the linen services team members to launder according to the *C. diff* protocols. Purple bags are distributed to the units via par stock.
- C diff education:** Infection Control routinely attends EVS Department meetings and weekly orientation to provide *C. diff* education. The Clinical Education department includes *C.diff* management and cleaning guidelines to clinical team members during orientation and annual education.

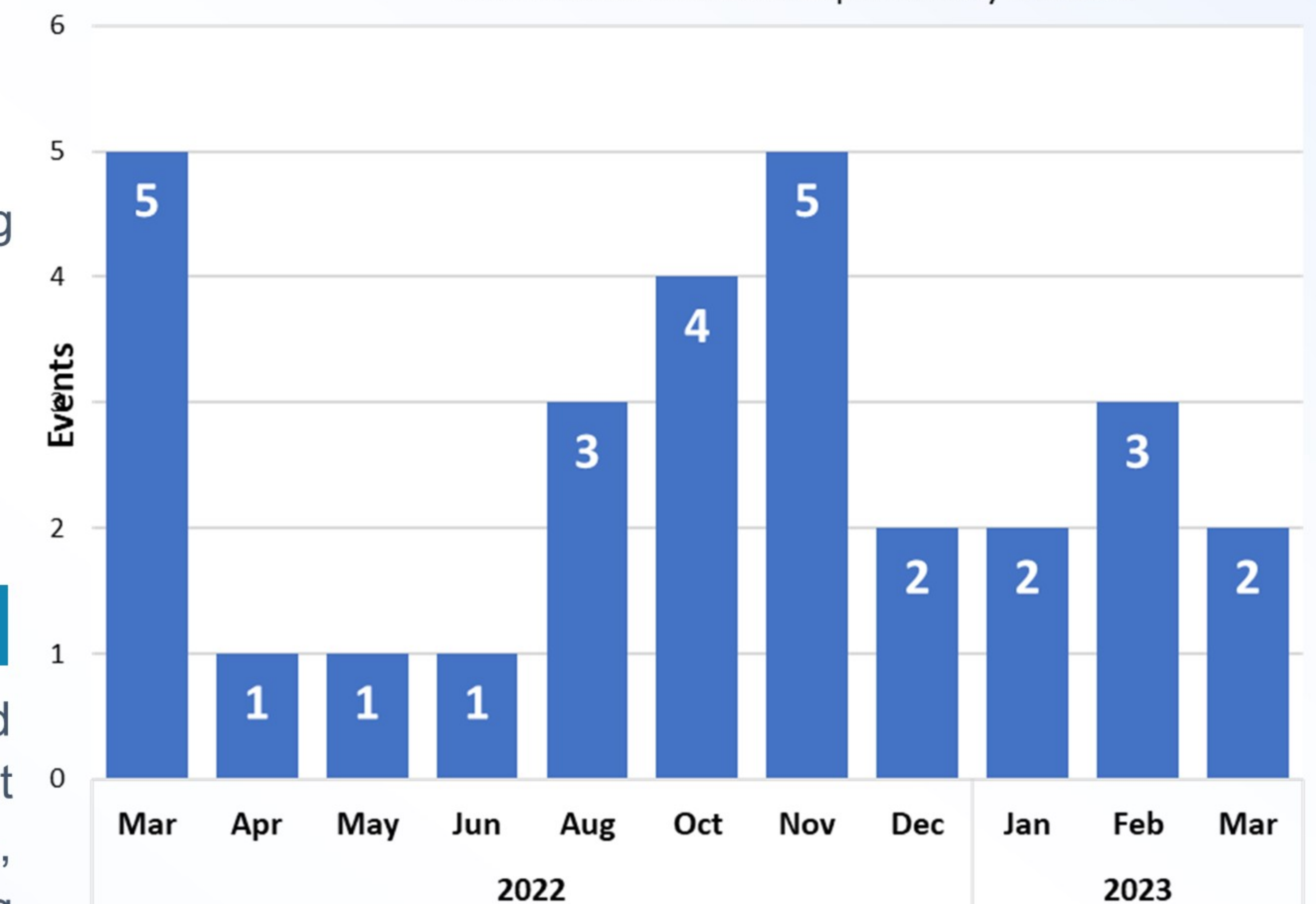
If Existing Isolation Is....	Isolation After C. Diff Order Placed Should Be...
Blank	Contact Plus
Contact	Contact Plus
Airborne	Special Contact/Contact Plus and Airborne
Contact and Airborne	Special Contact/Contact Plus and Airborne
Droplet	Special Contact/Contact Plus and Droplet
Contact and Droplet	Special Contact/Contact Plus and Droplet
Special Contact/Contact Plus and Airborne	Special Contact/Contact Plus and Airborne (no change)
Special Contact/Contact Plus and Droplet	Special Contact/Contact Plus and Droplet (no change)
Contact Plus	Contact Plus (no change)

RESULTS

Multidisciplinary collaboration between Infection Prevention, Epic, EVS, and Nursing has resulted in a reduction of *C. diff* infections. With focus on patient centered approach, collaborating with EVS and Nursing in root cause analysis, education, and process improvement, the team was successful in responding rapidly to an increase in infection and preventing harm.

Hospital Onset *C. diff* LabID Events

Data Source: National Hospital Safety Network



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