HENRY FORD HEALTH

Implementing an Electronic Best Practice Advisory to Reinforce Clostridioides difficile Testing

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Background

- Clostridioides difficile infection (CDI) is the most common cause of healthcare-associated infectious diarrhea in the United States and is associated with significant morbidity and mortality
- The National Healthcare Safety Network (NHSN) defines hospital-onset (HO-CDI) as positive *C. difficile* diagnostic test (toxin or molecular assay) on unformed stool samples detected after hospital day 3
- Conversely, community-onset (CO-CDI) is identified during the first three hospital days of patient admission
- At our facility, we identified a subset of HO-CDI patients who had unformed stools documented during their first three days of admission due to delay in testing
- A best practice advisory (BPA) was developed to reinforce our nurse-driven protocol for *C. difficile* testing and increase adherence to this protocol in order to improve early detection and reduce our HO-CDI rates

Methods

- The electronic medical record system was utilized to build a BPA that would fire if nursing documented an unformed stool during the first three hospital days of a patient's admission
- When this BPA fired, it linked to the *C. difficile* test and isolation order to facilitate easier ordering
- For our 877-bed facility, we evaluated the percentage of HO-CDI cases with unformed stools during the first three hospital days of admission during a 24-month preintervention period and a 24-month post-intervention period
- Additionally, we quantified the total CO-CDI cases identified during the pre-intervention and postintervention periods

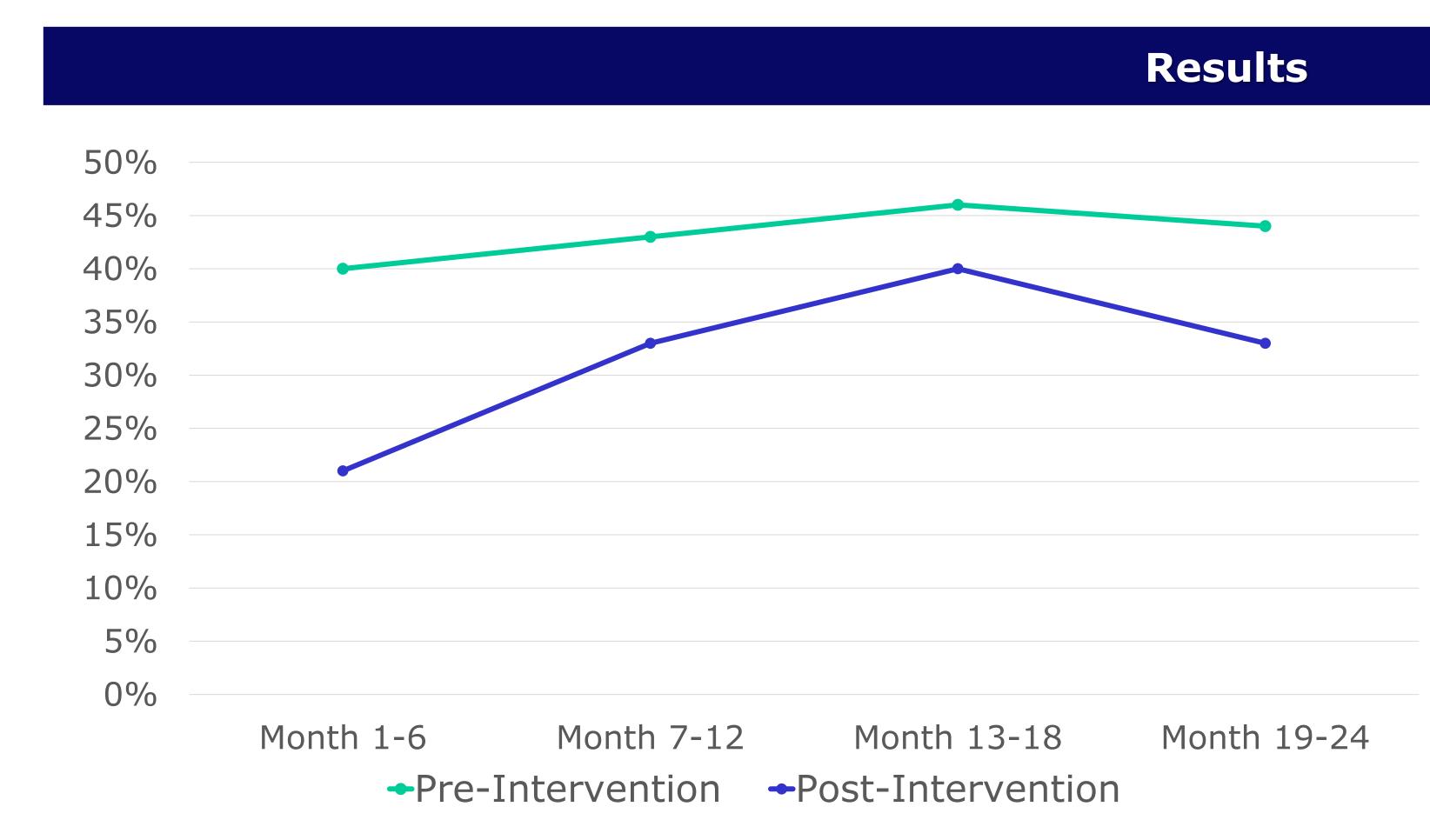


Figure 1: HO-CDI with Unformed Stool During the First 3 Days of Admission: Pre-and Post-intervention

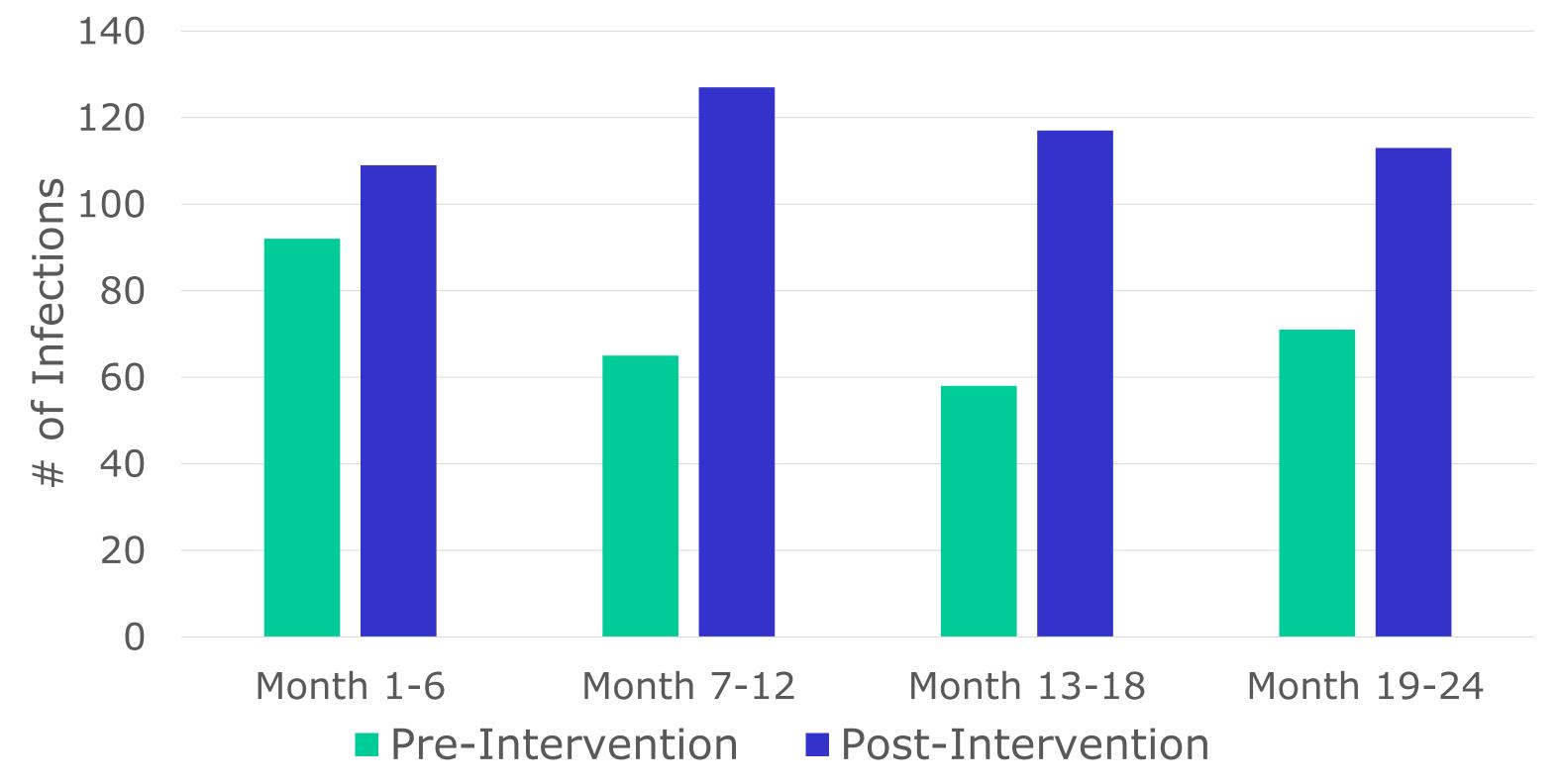


Figure 2: CO-CDI: Pre-and Post-intervention

- The percentage of HO-CDI with unformed stools during the first three hospital days of admission decreased from 41% (n=117) during the preintervention period to 32% (n=126) during the postintervention period (Figure 1)
- The number of CO-CDI identified increased from 291 during the pre-intervention period to 466 in the post-intervention period (Figure 2)

Conclusions

- Implementation of a BPA at our institution has decreased the percentage of HO-CDI that were due to delay in early testing and detection
- Through utilization of this BPA, our *C. difficile* testing protocol is continually reinforced to promote and maintain adherence to testing guidelines and reduce HO-CDI rates

Disclosures

I have no financial interests or relationships to disclose

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