

Future Healthcare Systems November 10 2014 Surrogate EVD Waste Packaging Thermal (Autoclave) Profile All Containers and Autoclave T°

Fig. 2

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Frequency of Testing for *Clostridioides difficile* in Adults Hospitalized with Diarrhea in Louisville, Kentucky

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Background: Although *Clostridioides difficile* infections (CDIs) are associated with significant morbidity and mortality, CDI disease burden may be underestimated if a high proportion of inpatients with diarrhea do not have stool specimens collected for CDI diagnostic testing. The objective of this study was to define the frequency of stool specimen collection and testing for CDI in adult hospitalized patients with diarrhea. **Methods:** A cross-sectional study was conducted in all 9 adult hospitals (total, 3,532 beds) in Louisville (adult aged ≥ 18

years; population 599,276) to identify patients with diarrhea and to observe the frequency of stool specimen collection for CDI diagnosis. For 7 consecutive days in December 2018, each ward was visited to identify new onset diarrhea (>3 loose stools in 24 hours) among Louisville adults: first via electronic medical record (EMR) review, then by nurse interviews, and finally by interviewing patients. For patients with diarrhea, research staff reviewed EMRs to determine whether a stool specimen was collected for CDI diagnosis, and they interviewed nurses about potential noninfectious causes of diarrhea. Results: Among 2,565 hospitalized adults (with 14,042 patient days), research staff identified 167 patients (47% men; median age, 64 years) with new onset diarrhea, 1.2 diarrhea cases per 100 patient days. Patients with diarrhea were initially ascertained by EMR review (50%), nurse interviews (42%) or patient interviews (8%); all cases identified by patient interviews were identified by nurses the following day (but many cases identified by nurses were never identified by EMR review). Nurses indicated that 67 cases had a potential noninfectious cause of diarrhea (eg, laxatives, feeding tube, colostomy, liquid diet, etc). Stool specimens were collected by hospital staff for CDI testing from 53 of 167 patients (32%) with diarrhea; 10 of 67 patients (15%) with diarrhea for whom nurses reported potential noninfectious causes of diarrhea (laxative use, enteric feeding, or gastric survey) in the past 24 hours; and 43 of 100 patients (43%) with diarrhea with no reported potential noninfectious causes of diarrhea. Stool collection frequency was similar on weekdays and weekends. Conclusions: The low frequency of CDI diagnostic testing of hospitalized patients with diarrhea indicates that CDI may be underdiagnosed in these hospitals and suggests, given that only 32% of patients with diarrhea had a stool specimen collected, that the CDI disease burden may be 3 times larger than currently appreciated. New-onset diarrhea occurred in >1% of patients each day; the most effective method for identifying patients with diarrhea was via nurse interviews.

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