A *Clostridium difficile* testing algorithm for detection of *Clostridium difficile* in healthcare facilities

*Clostridium difficile* (*C. difficile*) is a common cause of healthcare-associated infections (HAIs) and was estimated to be responsible for approximately half a million infections in the United States during 2011. During this same time period, the Centers for Disease Control and Prevention (CDC) estimated that approximately 29,300 patients who developed *C. difficile* infections (CDIs) died within 30 days of the diagnosis and the number of first recurrences of CDI was approximately 83,000.\(^1\) Due to the increasing prevalence and severity of CDIs across the nation, the CDC has targeted *C. difficile* surveillance as an important component of the Emerging Infections Programs (EIPP)\(^2\) and encouraged long-term care facilities to engage in surveillance activities that promote appropriate clinical testing for CDIs.

Residents of long-term care facilities are at high risk for developing CDIs due to advanced age, antibiotic exposures, previous stays in hospitals or exposures in other healthcare settings,\(^3\) multiple comorbidities, and communal living conditions.\(^4\) Antibiotics such as fluoroquinolones and third-generation cephalosporins have been cited as being used most often among CDI patients treated previously with antibiotics.\(^5\) Long-term care facilities are unique in that the proportion of residents colonized with asymptomatic *C. difficile* ranges from 5% to 51% which exceeds the 1% to 3% rate of the general population as well as rates reported among hospitalized patients.\(^4\)

The diagnosis of CDI is not based solely on a positive stool laboratory test (e.g., culture, molecular tests [PCR], antigen detection, and toxin testing), but requires the presence of clinical symptoms consistent with the diagnosis (diarrhea of ≥ 3 unformed stools in < 24 hours).\(^6\) Healthcare facilities should not test patients or residents with loose stools who do not meet the criteria for diarrhea or who have diarrhea symptoms that can be attributed to a non-infectious etiology such as laxative ingestion or enteral feeding. Inappropriate testing for the presence of CDI in patients or residents may result in false positives results for individuals who are do not have active CDIs but are asymptomatic carriers of the organism.\(^4\) In fact, patients or residents recovering from successful CDI treatment can become carriers and shedders of *C. difficile* spores for up to six weeks,\(^7,8\) or longer. Performing a test of cure is not recommended, and healthcare providers should not order a test-of-cure on patients or residents whose symptoms have resolved.\(^9\) However, repeat test for CDI is appropriate in individuals who have a return of diarrhea symptoms consistent with active infection.\(^9\)

The Healthcare-associated (HAI) Prevention Program of the Kentucky Department for Public Health (KDPH) has developed an algorithm to assist healthcare facilities with identifying those individuals in whom CDI testing is appropriate (Exhibit A). Use of such an algorithm can reduce the number of unnecessary tests and the associated false positive results. However, it is not meant to replace physician judgment or guidance.
References


