

Reducing Hospital-Onset C. diff By Using a Provider-Driven Emergency Department Ordering Algorithm

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Aim Statement

The goal of this project is to increase the amount of C. diff testing on admitted patients with diarrhea between March of 2021 to March 2022 to reduce the amount of Hospital-Onset (HO) C. diff cases for EUHM.

Background

- Clostridioides difficile* (C.diff) can cause diarrhea and inflammation of the colon. It's one of the most common healthcare-associated infections (HAIs), estimated to cause almost half a million illnesses and tens of thousands of deaths in the United States each year. Studies have estimated that this HAI costs up to \$4.8 billion each year in excess healthcare costs for acute care facilities
- Risk factors for C. diff infections include patient age, use of antibiotics, gastrointestinal surgery, long stays in healthcare settings, serious underlying illnesses, immunocompromising conditions, as well as a history of C. diff infection. Approximately 1 out of 6 patients who get C. diff will get it again within 2-8 weeks.
- Early identification, treatment, and initiation of isolation precautions is crucial to patient care and transmission reduction, making the Emergency Department ideal partners in efforts to reduce C. diff infections.

Actions/Tests of Change

- A C. diff testing algorithm was introduced specific to the Emergency Department in March 2021, promoting earlier testing and isolation of patients suspected of C. diff. (Image 1)
- Award a "Golden Spore Award" weekly to ED providers who appropriately initiate C. diff testing and isolation for patients admitted that meet criteria or are clinically suspected of have a C. diff infection.(See Image 2)

Results

- Overall test results sent during the post-intervention phase increased when compared to the number of tests sent during the pre-intervention phase. It is unclear how the varying volumes due to COVID affected this metric due to the symptoms that triggered this test.

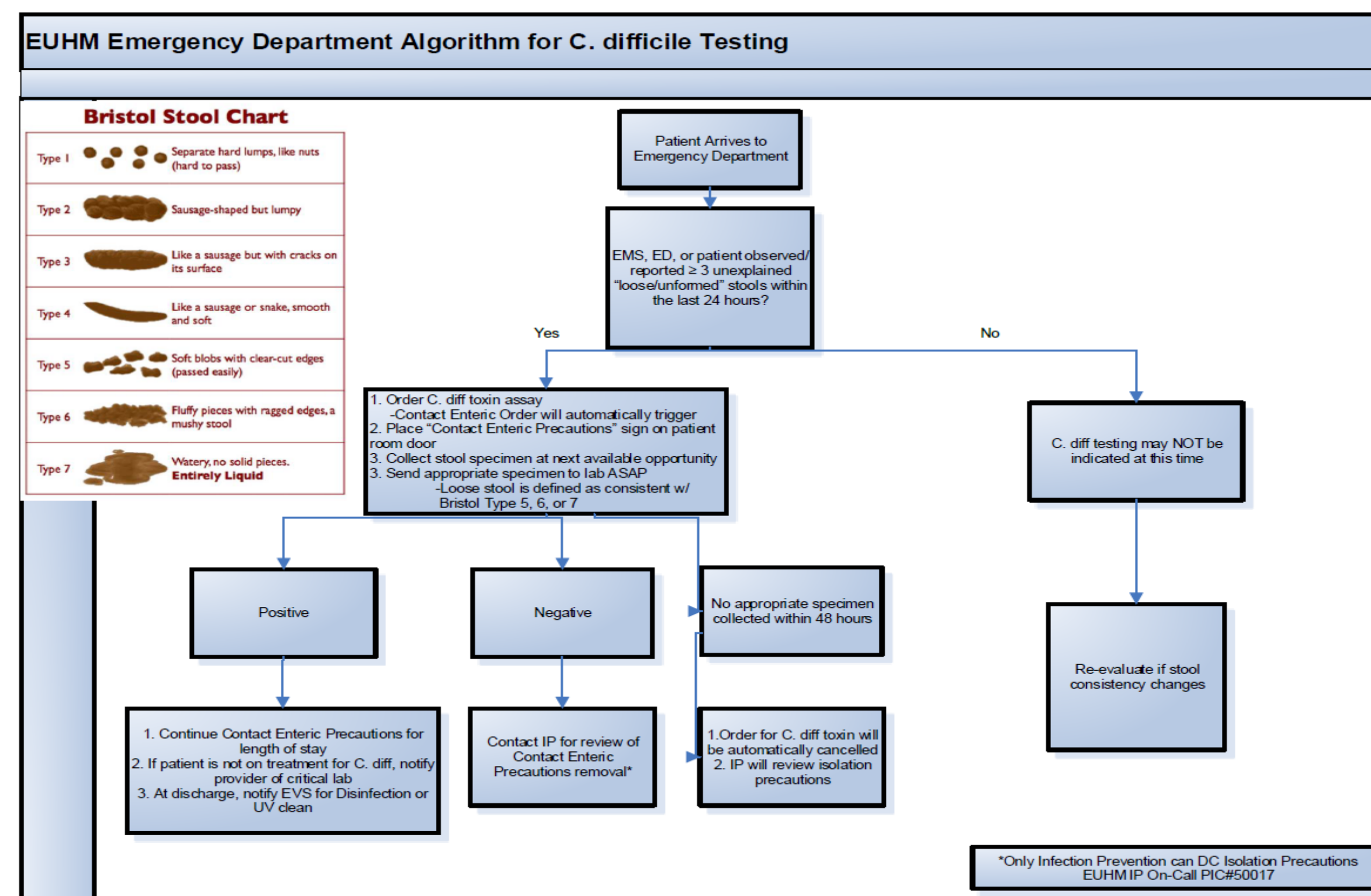


Image 1: EUHM C. diff Testing Algorithm



Image 2: The "Golden Spore" that represented the "Golden Spore Award."

Baseline Conditions

	Toxin+ Tests	EIA+ Tests	Admitted Patients Toxin+	Admitted Patients EIA+	# of Tests Sent
Pre-Intervention	11	33	5	26	199

Table 1: Pre-intervention data for the ED C. diff testing- 3/15/2020- 3/14/2021

Measures

- # of Tests ordered in ED
- # of positive specimens
 - # of patients with Positive C. diff tests admitted as an inpatient

Overall ED C. diff Testing Results		
	PCR+	EIA+
Pre-Intervention	11	33
Post-Intervention	14	48

Admitted Patients Testing Results		
	PCR+	EIA+
Pre-Intervention	5	26
Post-Intervention	2	27

	# of Tests Sent
Pre-Intervention	199
Post-Intervention	234

Reflection/Follow-up

•Collaboration between the ED, Infection Prevention, and Nursing was crucial to the success of the ED specific C. diff testing algorithm.

Next Steps:

- Continue to utilize the ED C. diff testing algorithm and collaborate with colleagues in Emergency Medicine
- The ED C. diff testing algorithm will be shared with the C. diff champions around the Emory Healthcare system for wider local use.
- The team plans to publish the results so that we can share this successful strategy more widely with Infection Prevention and Emergency Medicine colleagues.
- The team will continue to work with the nursing team in the EUHM ED to encourage the collection process taking place while the patient is still in the ED.