

2007-N-02

CIO Name: National Center for Zoonoses, Vectorborne and Enteric Diseases (NCZVED)

Project Title: Isolation of *Clostridium Difficile* from Stool Specimens Collected from Patients with Community-Acquired *Clostridium Difficile* Infections

Project Description: *C. difficile* is an anaerobic, spore-forming bacillus that produces a toxin that causes disease ranging in severity from mild diarrhea to fulminant colitis and death. Transmission of *C. difficile* occurs primarily in health care facilities, where environment contamination by *C. difficile* spores and exposure to antimicrobial drugs are more common. Recent antimicrobial use, advanced age, hospitalization, and residence in a long-term care facility are traditional risk factors for disease.

A previously uncommon *C. difficile* strain has emerged, causing severe disease in health care facilities in several states since 2000. There is concern that this epidemic strain may cause illness in population previously considered at low risk for CDAD; (those without recent antimicrobial use, the young, and those living in community settings).

The Foodborne Diseases Active Surveillance Network (FoodNet) is the principal foodborne disease component of CDC's Emerging Infections Program (EIP). FoodNet is a collaborative project of the CDC, ten EIP sites, USDA, and FDA.

FoodNet is conducting surveillance for community-acquired *C. difficile* infections. *C. difficile* toxin-positive stool specimens will be identified by clinical laboratories in FoodNet sites. FoodNet personnel will verify the patient's hospitalization status in the three months prior to specimen collection. Stool specimens from patients identified as having a community-acquired *C. difficile* infection will be cultured for *C. difficile* and culture positive *C. difficile* isolates will be forwarded to CDC laboratory for full characterization. The objective of this surveillance is to identify community-acquired *C. difficile* infections and provide science-based recommendations and/or develop interventions to prevent community-acquired *C. difficile* infection.

Awardee Activities:

- Academic partner will serve as a culturing laboratory for community-acquired *C. difficile* toxin-positive stool specimens and ship culture-positive *C. difficile* isolates to CDC laboratory for characterization.
- Partner will be asked to provide council on FoodNet *C. difficile* projects and attend the FoodNet Vision Meeting.

CDC Activities:

- Coordinate surveillance for community-acquired *C. difficile* in the FoodNet sites.
- Coordinate the shipment of identified *C. difficile* toxin-positive stool specimens from the clinical laboratories to the culturing laboratory.

Special Requirements: None

Additional Review Criteria: None

Other Information:

1. CDC. Severe *Clostridium difficile*-Associated Disease in Populations Previously at Low Risk – Four States, 2005. *Morbidity and Mortality Weekly Report* 2005;54(47):1201-1205
2. A Rodriguez-Palacios, H Stämpfli, T Duffield, A Peregrine, L Trotz-Williams, L Arroyo, J Brazier, J Weese *Clostridium difficile* PCR Ribotypes in calves, Canada. *Emerging Infectious Diseases* 2006;12(11):1730-1736.
3. L C McDonald, G E Killgore, A Thompson, ; R C Owens Jr, S V Kazakova, S P Sambol, S Johnson, D N Gerding. An Epidemic, Toxin Gene-Variant Strain of *Clostridium difficile*. *N Engl J Med* 2005;353(23): 2433-2441.

Project Period Length: 3 (Cannot exceed 3 years)

Approximate Total Project Period Funding: \$60,000 (This amount is an estimate, and is subject to availability of funds and **includes direct and indirect costs, excluding the additional academic partner administrative costs**).

Approximate Average Award: \$20,000 (This amount is for the first 12-month budget period, and **includes both direct and indirect costs, excluding the additional academic partner administrative costs**).

Approximate Number of Awards: 1

Specify whether this PEP is for Research or Non-Research projects: Non-Research