

## **Cholera in Louisiana IDSA 2007 Meeting**

Joan M. Brunkard, Patricia A. Yu, Eric D. Mintz, Stephen J. Rothenberg, Annu E. Thomas, Penny Cuneo, Sally Clement, Susanne Straif-Bourgeois, Diana M. Bensyl, Raoult Ratard, 2007. Cholera, Crabs, and Katrina: Is Cholera Increasing in Southern Louisiana? 45th Annual Meeting of IDSA, October 4 – 7, 2007 – San Diego, Abstract 984.

### **Background**

Although cholera kills thousands each year globally, locally acquired cases are rare in the United States and are most often associated with Gulf Coast seafood. Toxigenic *Vibrio cholerae* O1, the agent of cholera, is endemic in the brackish waters of southern Louisiana. In the year following Hurricane Katrina, six cholera cases were reported, representing a 10-fold increase over the previous 5-year baseline (2000–2004). We conducted an investigation to identify epidemiologic and environmental risk factors.

### **Methods**

We interviewed the six post-Katrina patients and compared their exposures and isolates with previous Louisiana cholera patients. We also interviewed crab wholesalers and fishermen to determine if a common environmental source of implicated seafood existed. We used a negative binomial regression model to determine the probability of six cases of cholera occurring during the post-Katrina year.

### **Results**

Post-Katrina isolates were indistinguishable by pulsed-field gel electrophoresis (PFGE) from the Gulf Coast strain. All six patients had handled and eaten locally caught crabs within 5 days of illness onset; three had also eaten shrimp. Patients reported cooking seafood for a sufficient period to kill the bacteria, but cross-contamination was possible in five cases. Fishermen and crab wholesalers reported that since hurricane Katrina, crabs were being caught in areas they had never been found before the storm. The probability of six cholera cases occurring during the year following Hurricane Katrina was  $P = 0.07$ . Conclusions: Crab continues to be the main source of cholera infection in southern Louisiana, underscoring the need for education regarding safe seafood handling and cooking practices. In addition, ecological changes post-Katrina might have altered crab habitat in southern Louisiana, emphasizing the need for enhanced cholera surveillance.