

Infective Dose of *Vibrio parahaemolyticus*

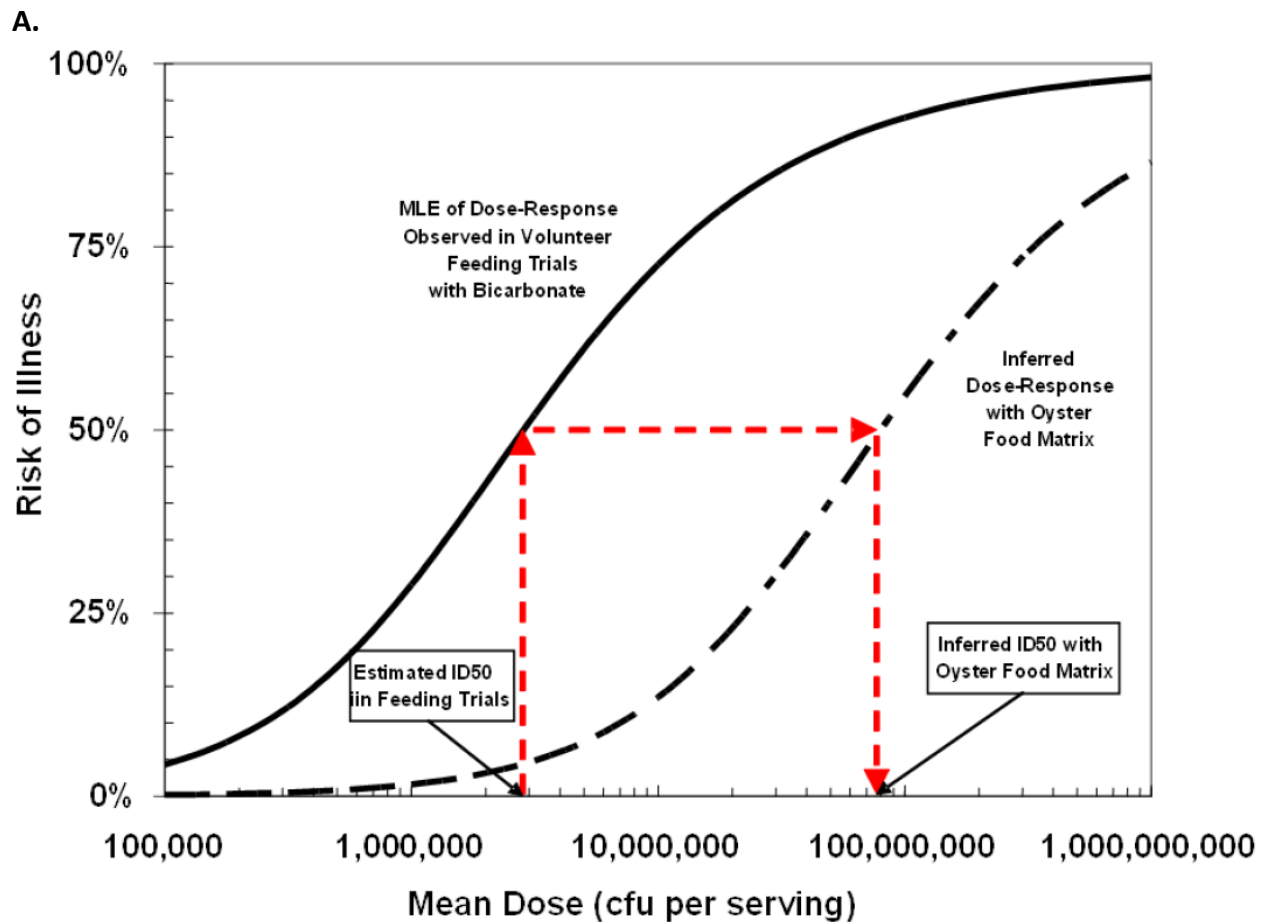


Figure III-3. The Beta-Poisson Dose-Response Model for *Vibrio parahaemolyticus* Fit to Human Feeding Trials and Adjusted Using Epidemiological Surveillance Data

[The solid line is the best estimate of the Beta-Poisson Model fit to pooled human feeding studies. The dashed line shows the shift adjustment so that the model predictions agree with epidemiological surveillance data. MLE denotes the maximum likelihood estimate. ID₅₀ is the dose corresponding to a 50% probability of illness.]

B. What is known about the dose-response relationship between consumption of *Vibrio parahaemolyticus* and illnesses?

Although an individual may become ill from consumption of low levels of *V. parahaemolyticus*, it is much more likely that he or she will become ill if the level is high. The probability of illness is relatively low (<0.001%) for consumption of 10,000 *V. parahaemolyticus* cells/serving (equivalent to about 50 cells/gram oysters). Consumption of about 100 million *V. parahaemolyticus* cells/serving (500 thousand cells/gram oysters) increases the probability of illness to about 50%.

Source: A. and B. taken from pages 28 and 117 respectively of 'Quantitative Risk Assessment on the Public Health Impact of Pathogenic *Vibrio parahaemolyticus* In Raw Oysters'. Center for Food Safety and Applied Nutrition, Food and Drug Administration and U.S. Department of Health and Human Services.