Questions and answers regarding the overall change in incidence of infection with pathogens transmitted commonly through food

1) **What do you mean by "the overall change in incidence of infection with pathogens transmitted commonly through food?"**

The overall change in incidence is the percent increase or decrease in the incidence of infection with pathogens tracked in FoodNet, considered as a group. We calculated this overall change using a statistical model that compares the average annual incidence in the 3 most recent years of surveillance (2007 to 2009) with the average annual incidence for 1997-1999, the first 3 years of FoodNet surveillance for all the pathogens included in the model. The infections included in the estimation of the overall change in incidence are *Campylobacter, Cryptosporidium, Cyclospora, Listeria, Salmonella,* Shiga toxin-producing *Escherichia coli* (STEC) O157, *Shigella, Vibrio,* and *Yersinia.* Surveillance for STEC non-O157 infections started in 2000 and therefore these pathogens were not included .

2) **How is the overall change in incidence of infection with pathogens transmitted commonly through food calculated?**

FoodNet scientists use a main-effects, log-linear Poisson regression (negative binomial) model to estimate the overall change in incidence of infection with pathogens transmitted commonly through food. The model takes into account the increase in the number of FoodNet sites over the last 10 years, variation in the incidence of infection among sites, and variation in pathogen-specific incidence of infection. The average annual incidence for 1997-1999, the first 3 years when information was collected for both bacterial and parasitic infections, is used as the comparison period. We calculated the change in incidence between the 3 most recent years of surveillance (2007 to 2009) and the comparison period, along with 95% confidence intervals.

3) **How should the overall change in incidence be interpreted?**

The overall change in incidence is interpreted as the percent decrease or increase in the overall incidence of infection with pathogens tracked in FoodNet, as a group, between the periods of 1997-1999 and the most recent 3 years of surveillance (currently, 2007-2009.) For 2007-2009 compared with 1997-1999, FoodNet reports a 20% decrease in the overall incidence of infection with pathogens transmitted commonly through food.

4) **What are the limitations of the overall change in incidence of infection with pathogens transmitted commonly through food?**

- The overall change in incidence of infection with pathogens transmitted commonly through food provides a snapshot assessment of changes in the incidence of infections with pathogens tracked in FoodNet. Trends for individual pathogens are reported separately. Some illnesses might have been acquired from non-food sources, so these estimates do not exclusively reflect foodborne transmission.
- FoodNet relies on diagnoses made in clinical laboratories. Changing laboratory practices may affect the reported incidence of infection for some pathogens. In addition, some important infectious agents, such as norovirus, that are transmitted commonly through food are not under

surveillance in FoodNet, because these pathogens are not identified routinely in clinical laboratories. These agents are not included in the measure of the overall change in incidence of infection with pathogens transmitted commonly through food.

- Although the FoodNet population is similar demographically to the U.S. population, the findings might not be representative of the entire U.S. population.