

# Effort to Decrease Salmonella & Campylobacter Rates in Clinton & Cumberland Counties

Lake Cumberland District Health Department

500 Bourne Avenue  
Somerset, KY 42501



## Quality Improvement Story Board

Team Members: Christine Weyman, Amanda England, Laura Woodrum, Stuart Spillman, Sherri Gibson, Janae Tucker, Heather Capps, Chasity Patterson

## PLAN

### Problem Statement

During the 2016 analysis of reportable infectious diseases, it was identified that Clinton and Cumberland counties had very high rates of salmonella and campylobacter cases relative to state and district rates (see *Figure 1* on following page).

### Aim Statement

Decrease the number of cases of salmonella and campylobacter for the general public in Clinton and Cumberland counties, 25% or more, by January 2018, through educational campaigns on the sources and transmission of these food-borne illnesses.

### Process Outline & Relevant Data

Because these counties have small populations and few cases with great variability from year to year, 4 year averages were used as baseline rates (see attached graphs). None of the reported outbreaks have been related to food service establishments, but “backyard” chickens and “homegrown” eggs have routinely showed up on reportable disease records so the focus of the project will be toward general community education to include; the importance of correct handwashing techniques, safe handling of poultry and eggs, proper cooking temps, etc.

## Identify Potential Causes

Brainstorming efforts identified that potential causes of cases of Salmonella and Campylobacter were not related to food establishments, but were more likely related to....

- Improper storage of meats and eggs
- Cross contamination between meats and vegetables
- Insufficient handwashing techniques
- Washing “backyard” eggs before cooking, thereby “contaminating” the eggs
- Washing poultry before cooking, leading to possible contamination of other kitchen surfaces
- Not cooking meat/eggs to recommended temps
- Not storing foods/leftovers at the appropriate times/temps
- Possible employee contamination at the local chicken processing plant

## Identify Potential Solutions

Educate the general public to make them aware of the issues listed above and provide them with the proper knowledge and tools needed to decrease their risks of acquiring a food-borne illness.

## Improvement Theory

Implementing community education on these topics may help decrease the number of salmonella and campylobacter in these communities.

## DO

### Test the Theory

An educational campaign was developed and executed utilizing, pamphlets, posters, refrigerator magnets, meat thermometers and media releases – including a social media campaign targeted by zip code, local radio PSAs by local high school students and educational ads in local newspapers. Printed materials were placed in grocery stores and handed out at festivals and in clinics. Other community partners, including the local extension offices, local health department clinic staff, homemaker clubs and hospitals also became involved and worked together to assist with this campaign.

## CHECK

### Study the Results

Meat thermometers, magnets, and educational materials were handed out in all local grocery stores and health department clinics during June-July 2017. There were 475 recipients in Clinton and 314 in Cumberland County. The health department clinics, homemaker clubs, extension offices and grocery stores continue to give out materials while supplies last.

A short survey completed during this campaign validated that most citizens were not utilizing thermometers for cooking or storage, and many residents were not even familiar with thermometer/temperature guidelines, but were very receptive to the information presented.

According to LCDHD primary data collected for food-borne illness during and after this project;

- Campylobacter cases decreased by 23.5%, and
- Salmonella cases decreased by 59% for Clinton and Cumberland Counties combined (*Figure 2*). National and state averages will not be available for final comparison until January 2019.

## ACT

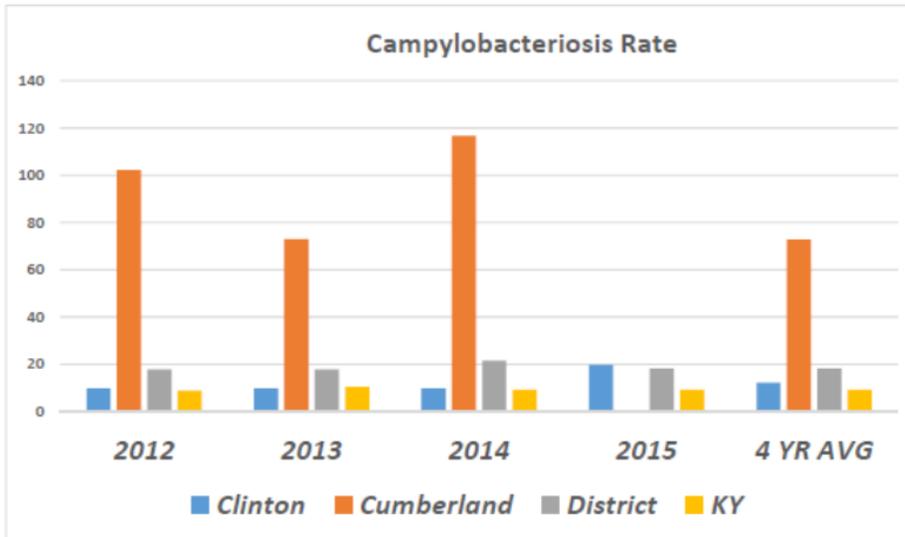
### Standardize or Develop New Theory

Replicate this project in other areas with high rates of foodborne illness, and may also focus more on food service establishments training and education if applicable in those areas. Contact the nurse at the chicken processing plant and discuss results with goal of providing education to the employees about prevention of transmission of these pathogens if multiple employees or their families are affected by foodborne illness.

### Future Plans

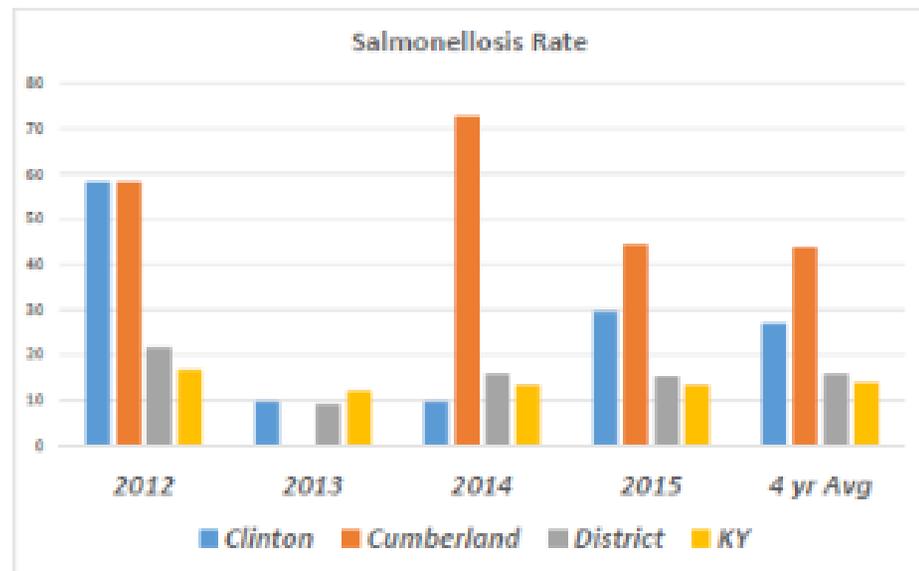
Continue educational campaign on preventing food-borne illness as opportunities arise. Monitor rates of illnesses across the district and review at data analysis committee meetings. Posters and pamphlets will continue to be on display/available at the local grocery stores. Extension office will continue incorporating food safety in available courses.

Figure 1: LCDHD Comparative Charts for Foodborne Illness developed by the Data Analysis Committee



(Rate per 1000,000 population)

LCDHD 10/30/2017



(Rate per 1000,000 population)

LCDHD 10/30/2017

Figure 2: LCDHD Comparative Charts for Foodborne Illness after QI project

