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Study: Infection Rates Correlate with Public Health Spending

By James Andrews | March 4, 2015

Local government spending on food safety and sanitation programs may significantly influence the number of illnesses occurring in the surrounding areas, according to a new study led by researchers from the University of Washington School of Nursing.

The study examined 11 years of data collected from county health departments in the states of Washington and New York, finding that infection rates from two harmful pathogens, Salmonella and Cryptosporidium, correlated with spending on public health programs.

In Washington state, cuts to health spending were found to correlate with increasing Salmonella infections, said Betty Bekemeier, Ph.D., associate professor of nursing at the UW and lead author of the study.



In New York, the same trend was observed with Cryptosporidium infections, which are often associated with sanitation concerns.

The researchers looked at rates of infections for the seven most commonly reported foodborne diseases over the 11-year period and compared that to trends in funding for a number of health programs related to food and water safety: food safety education programs, enforcement of regulations, food-handler permits, restaurant inspections, and health-related complaint investigations.

They also controlled for a series of variables that could impact the comparisons, such as levels of poverty, percentage of children in the population, and even the number of restaurants in each county.

“When you keep all of those things similar, we found that these local health department expenditures around

food safety and sanitation had a significant relationship and could really predict levels of enteric disease,” Bekemeier told Food Safety News.

Aside from Salmonella and Cryptosporidium, the study also looked at E. coli, Campylobacter and Hepatitis A, among a few other foodborne pathogens, but researchers could not draw conclusions about those pathogens without more certainty in the data. Salmonella and Cryptosporidium, on the other hand, occurred at high enough rates to easily demonstrate a correlation.

“This is all pretty hard to do,” Bekemeier said. “These data are difficult to come by and aren’t often comparable from state to state. To be able to do this and have annual data for 11 years and get it as close to comparable as we’re able to really speaks to how much more we’d know if we had better data.”

The takeaway from the study: Cutting investments in public health may heighten the risk of foodborne and waterborne disease outbreaks.

“The costs of undermining prevention are huge in terms of the potential outcomes for the public’s health,” Bekemeier said.

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