Dear Editor

In his Letter to the Editor, Craig Hedberg (Hedberg, 2012) correctly points out that case-control studies of risk factors for sporadic (not outbreak-associated) enteric disease are expensive, time-consuming, and logistically challenging. However, they can yield important information for enteric disease control that is not available from outbreak investigations.

For example, a case-control study of sporadic infections enabled an unprecedented response time during the large U.S. listeriosis outbreak in 2011. Data collected by the Listeria Initiative led to the identification of an association with cantaloupe within days rather than weeks or months (CDC, 2011a). We estimate that the commercial recall of the implicated cantaloupe just 12 days from outbreak detection prevented 20% of the cases and deaths that would otherwise have occurred (CDC, unpublished data, 2012). Cantaloupe is included in the Listeria initiative questionnaire as a direct result of a case-control study of sporadic listeriosis conducted in the Foodborne Diseases Active Surveillance Network (FoodNet) (Varma et al., 2007).

Beyond facilitating outbreak investigation, data from case-control studies are central to efforts to make rational decisions about the use of resources to reduce food contamination. Outbreak-associated cases comprise only a small proportion of all cases; for example, more than 99% of Campylobacter infections are sporadic (CDC, 2011b). Case-control studies of sporadic Campylobacter infection have shown strong associations with poultry (Friedman, 2004; Stafford, 2007; Wingstrand, 2006); poultry, however, is rarely a vehicle in Campylobacter outbreaks (Taylor et al., 2012). Current regulatory actions appropriately aim to decrease the contamination of poultry to better control Campylobacter infection (USDA-FSIS, 2011).

Case-control studies are an important tool in the enteric disease epidemiologist's toolbox and, like any tool, should be wielded properly to obtain useful results. Recognizing that case-control studies are resource-intensive and designing and deploying them thoughtfully can answer important questions that cannot be addressed otherwise.

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References


