

Cost-of-Illness for Five Major Foodborne Illnesses and Sequelae in Sweden

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ABSTRACT

Aims The aim of the paper is to derive cost estimates of five major food-borne illnesses (campylobacteriosis, salmonellosis, EHEC, yersiniosis and shigellosis) in Sweden. These estimates provide a necessary contribution to perform future cost-benefit analyses aimed at reducing the burden of food-borne disease.

Methods The true number of cases for each foodborne illness was simulated by multiplying the reported number of cases by sequential multipliers, one for each potential source of information loss about a case. This assessment of the true number of cases was then used to estimate the number of cases of sequelae for each illness. An incidence-based analysis was then used to calculate direct medical and non-medical costs (including visits to GP, hospitalizations, rehabilitation treatments, medication and transport) as well as indirect costs (production losses due to work absence). To calculate indirect costs, the friction cost approach was used. Data for estimating the true number of cases for each illness was primarily based on an expert panel, while the derivation of costs mainly utilized national registries, data bases and published literature.

Results By far the most common pathogen is campylobacter, with an estimated 91062 cases occurring annually, translating to an incidence rate of almost 1000 cases per 100000 person years. For salmonella, 24374 cases are estimated to occur each year, while the other three pathogens are less common with a yearly incidence of about 3000-4000 cases. The proportion of cases of the main pathogens that lead to ReA varies between 9% (for EHEC) and 16 % (for yersiniosis). The proportion of main pathogen cases that lead to IBS is 9% for all main pathogens. The incidences of campylobacter-related GBS and EHEC-related HUS are much smaller with 38 and 165 cases occurring each year. Many of these cases, however, have very serious outcomes and are therefore important to consider.

The total cost for the five pathogens (including sequelae) amounted to over SEK 1.1 billion (€ 120 million). Campylobacter was the most costly pathogen, representing 62 percent of the total costs. Salmonellosis and EHEC constituted 23 and 8 percent of these costs, respectively, while yersiniosis and shigellosis represented about 4 percent each.