A decision support system for the control of Campylobacter in chickens at farm level using data from Denmark

The control of Campylobacter in poultry is considered a public health priority and some intervention strategies have been implemented in Denmark. Nonetheless, Campylobacter infection in poultry can still be considerable particularly during the summer when the most promising Campylobacter control strategy seems to be the use of fly screens. The use of cost-effective vaccines against Campylobacter is also desirable. In order to control Campylobacter, poultry producers need to make crucial decisions under conditions of uncertainty. With the aim of assisting poultry producers in decision making regarding Campylobacter control strategies, the objective of the present study was to produce a decision support system that integrated knowledge and used a Bayesian approach to handle uncertainty. This decision support system integrated epidemiological data, microbiological considerations, financial information and potential control strategies (the use of fly screens and hypothetical vaccines). In conclusion, results from model and sensitivity analyses indicated that the financial variables (cost–benefit functions) and the effectiveness of the different control strategies drove the results.

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