

Barriers to recording calf health data on dairy farms in Ontario, Canada

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Introduction

Accurate data on illness and treatment rates in dairy calves are necessary for health management, yet calf health records are often incomplete. Due to the effects of illness in calves on future production, common use of antimicrobials in calf disease, and concerns regarding judicious use of antimicrobials, we need to understand why calf health data are often poorly recorded on dairy farms. Our objective was to investigate barriers for farmers for recording calf illnesses and treatments on dairy farms in Ontario, Canada.

Materials and methods

An online survey was completed in 2022 by a convenience sample of 88 dairy producers in Ontario, Canada. The survey contained 34 questions regarding farm demographics, current practices on record keeping and analysis, and factors that would improve recording compliance. Multivariable models were built to assess associations between explanatory variables and the following outcomes: likelihood of making management or treatment protocol changes based on records analysis, factors that would increase the use of electronic recording methods, and whether all calf illnesses and treatments are recorded. Pearson's chi-squared tests were used to investigate associations between explanatory variables and whether the respondent agreed with reasons why a calf illness or treatment would not be recorded on their farm. STATA 17.0 was used to analyze all data.

Results

Overall, 19% of respondents recorded all calf illness events, and 43%, 38% and 13% of respondents recorded all antimicrobial, anti-inflammatory, and supportive treatments, respectively. Producers had 3.5 times greater odds of recording all antimicrobial treatments if they used a computer software system compared to those who did not (95% CI = 1.2 to 10.1; $P = 0.02$). Producers had 3.1 times greater odds of recording all anti-inflammatory treatments if records were located in the calf barn than elsewhere (95% CI = 1.0 to 9.4; $P = 0.05$). Last, non-family employees had 6.1 times greater odds than owners for recording all supportive therapy treatments (95% CI = 1.2 to 31.2; $P = 0.03$).

When calf health records were kept in the calf barn, respondents were less likely to report that illnesses were not recorded due to time constraints (5% vs. 36% if records were elsewhere; $P < 0.01$) or because calf health records are not analyzed (10% vs. 34% if records were elsewhere; $P = 0.04$). On farms that recorded calf treatments in a paper booklet, respondents were more likely to report that treatments were not recorded because calf health records are not analyzed (44% for paper records vs. 21% for other systems; $P = 0.04$). The most commonly indicated factors that would increase the recording of illness were recording with a mobile app (27% of respondents) and ease of use of the recording system (31% of respondents).

Significance

To our knowledge, this is the first study to explore factors that influence the likelihood of dairy producers recording illness and treatment events in dairy calves. The results indicate that calf morbidity and treatment recording may be improved by ensuring that calf health records are kept close to the calves, that the method of recording allows for data analysis, and that analysis is actually performed and reported to the farmer. Furthermore, producers may be motivated to record more illnesses and treatments if an easy-to-use mobile app were available in the calf barn and facilitated useful feedback to farm personnel.

