Owner-reported equine mortality in a cohort of horses and ponies in Great Britain
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Reasons for performing study: There is a paucity of quantitative mortality data from generalisable equine populations.

Objectives: To provide descriptive epidemiological data regarding owner-reported equine mortality in a cohort of horses/ponies in Great Britain.

Study Design: Prospective cohort.

Methods: Data were collected from owners enrolled in a prospective cohort study on equine laminitis in Great Britain between August 2014 and December 2016 (29 months). Owner-reported mortality risk was estimated and reasons for mortality described. Horse-level factors between the mortality group and those surviving to the end of the study period were compared with an independent t-test and significant factors analysed using logistic regression. Significance was set as P<0.05. Proportions are presented with 95% confidence intervals (CI).

Results: Data were available for 1837 horses/ponies of a variety of breeds and both sexes, with a median age of 14 years (range 1-38 years). The overall owner-reported mortality risk was 6.0% (n=111; 95% CI 5.0-7.1%). Reasons for mortality were obtained for 109 horses, the majority of which were euthanased (98.2%; CI 95.7-100.0%). The most frequent single reasons for mortality were colic and musculoskeletal (non-laminitic) problems (both 17.4%, CI 10.3-24.6%), and laminitis (15.6%, CI 8.7-22.4%). The most frequent multifactorial reason for mortality was laminitis alongside other conditions (11.9%, CI 5.8-18.0%). Age-related deterioration was stated as having contributed to mortality in 19.3% (CI 11.9-26.7%) of horses. Horses in the mortality group were significantly older (mean difference 5.6 years, P<0.001) and lighter (mean difference 27.3 kilograms, P=0.04) than those surviving to the end of the study period. Logistic regression identified an increased risk of mortality with each increasing year of age (OR 1.1, CI 1.1-1.2; P<0.001), adjusted for weight.

Conclusions: Colic and lameness, including laminitis, were major contributors to mortality in this population. Further investigation of the cohort may identify significant management-level factors associated with mortality.

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Ethical approval
This study was granted institutional ethical approval from the Animal Health Trust (AHT01-2014) and the Royal Veterinary College (2014 0105H). Animal use not applicable. Return of a completed questionnaire was taken as informed owner consent.

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