INTRODUCTION: Dzud is a Mongolian term for a winter weather disaster in which deep snow, severe cold, or other conditions render forage unavailable or inaccessible that leads to high livestock mortality. In the winter of 2009–10, Mongolia experienced the most severe dzud since the consecutive dzud winters of 1999–2002. However, it is obviously difficult to accurately predict the risk prediction of the effects of dzud on human lives and public health. This study aimed to evaluate the nomadic public health risks of dzud from the point of the view of livestock loss.

METHODS: The analysis covered all 21 aimags (provinces of Mongolia) in Mongolia and compared the following parameters: the declining rate of population (2009–10), infant mortality in 2010, and the decline in the numbers of livestock, which includes horses, cattle, camels, sheep, and goats (2009–10) in each aimag. These parameters were based on the data from the National Statistical Office of Mongolia. For statistical analysis, Spearman’s rank-correlation coefficient was used to determine any correlation between the parameters with a significance level of 5%.

RESULTS: The decline in the population was significantly positively correlated with the declining numbers of horses, cattle, and camels ($r = 0.58$, $P = 0.005$; $r = 0.57$, $P = 0.006$; $r = 0.59$, $P = 0.004$, respectively). Infant mortality was significantly negatively correlated with the rate of decrease in the numbers of camels ($r = 0.44$, $P = 0.038$).

CONCLUSIONS: Declining numbers of large livestock such as horses, cattle, and camels are associated with the mentioned public health parameters. Loss of large livestock may cause economic loss and deterioration of the nutritional status among the herders; thus, it may be one of the predictive factors of the effects of dzud on the nomadic health.