

Routine clinical inspections in marine salmonid farms have a high capability of detecting viral haemorrhagic septicaemia (VHS) and play a key role in surveillance for freedom

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Due to the increasing demand for more cost-effective surveillance strategies, and in order to comply with the requirements in the Council directive 2006/88/EC, the Norwegian surveillance programme for viral haemorrhagic septicaemia (VHS) has been modified towards a risk-based approach. The core activity is clinical inspections carried out on a regular basis by authorized veterinarians and fish health biologists working in independent or industry owned fish health services (FHS) and laboratory investigation of suspicious samples. The aims of this study are to evaluate the impact of FHS and to estimate the probability of freedom from VHS in marine farmed salmonids in Norway based on analysis of clinical inspection data. Probabilities of fish being submitted and tested given that the population is infected, the estimates on effective probability of infection (EPI), sensitivity of the laboratory test and numbers of samples tested were included in site-sensitivity estimates. The population of farmed salmonids in Norway was divided in four risk groups (species, region, area production density and level of biosecurity) based on knowledge of VHS risk factors. Population sensitivity (SeP) and probability of freedom (PFree) were estimated on a monthly basis over a 12 month period using a hypergeometric approximation. The model estimates of site sensitivity, SeP and PFree indicate that the surveillance system based on routine inspections by the FHS has a high capability for detecting VHS. The results also show that there is a high probability of freedom from VHS in Norwegian marine farmed salmonids. A PFree of 95 % is achieved within 6-12 months depending on the assumptions given in the model. The model provides a supporting tool for evaluation of potential changes in the surveillance strategy. The current model can be viewed as generic for similar exotic viral infectious diseases in marine salmonid farming in Norway, as they share similar risk factors.