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**DEVELOPMENT OF A NOVEL MONITORING AND  
SURVEILLANCE SYSTEM FOR ENDEMIC ANIMAL  
DISEASES IN NEW ZEALAND**

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## Abstract

Disease surveillance of animal populations has taken on renewed importance. The literature regarding disease surveillance systems, particularly with respect to animal diseases is summarised in section 1.

Section 2 explores three potential sources of dairy cattle endemic disease data, with a view to utilising this data within the national disease surveillance system and as a model for gathering data from other animal species.

Disease records stored on farm computers were retrospectively sourced from forty dairy farmers, from paper records of their servicing veterinary practices and from laboratory records held by the practice for these same farmer's animals. In this way, the loss of data on recorded disease events from farmer to veterinarian to animal health laboratory could be quantified and characterised. Frequency and magnitude of veterinary activity on farms was also quantified, as an indicator of "coverage" of the dairy cattle population, with respect to disease surveillance capability.

As expected farmers recorded the largest number of disease events (14.6 per 1000 cow months at risk, the veterinary practitioners the next (5.2 per 1000 cow months) and animal health laboratories the least (0.58 per 1000 cow months). Twenty-five percent of farmers did not record any disease data. Of those farmers who did record diseases, 84% of records were cases of lameness or mastitis. Farmers rarely recorded veterinary diagnoses.

When lameness and mastitis were excluded, veterinary records gave the highest rate (3.6 per 1000 cow months) and spectrum of diseases events recorded. Veterinary records had a high (22%) percentage of undiagnosed or unspecified cases when compared to farmer records.

Veterinary practices visited the farms on average 17.8 times per year and handled on average 156 cows per 1000 cow months.

The animal health laboratories made positive disease diagnoses at a rate of 0.24 per 1000 cow months. Approximately half of these were milk samples for routine culture and sensitivity testing.

Veterinary practice records offer valuable information for monitoring the temporal and spatial pattern of disease events on farms.

Section 3 outlines elements of a prototype palmtop recording system (VetPAD), which offers easy standardised data capture.

Section 4 explores a possible future for Veterinary Practitioner Assisted Disease Surveillance (VetPAD) using a syndromic disease reporting approach.

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