What to look for when monitoring animal diseases?

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Citation (APA):
1. Introduction and objective
   - Porcine reproductive and respiratory syndrome (PRRS) surveillance program is based on serological tests performed on regular basis in Danish swine herds.
   - We evaluated 4 alternative methods for generating alarms based on serological test results, where no reports of disease spread were made during the period.

2. How did we do it?
   **Data management**
   - The herds were classified as positive for PRRS if at least 2 individual blood samples were positive per submission.
   - The weekly PRRS-seroprevalence was calculated from 2007 to 2014.

   **Time series decomposition and detection methods**
   - A Dynamic Generalized Linear Model was used to model the data.
   - Alarms generated from 2009 to 2014: 2 years of “burn in” for the model
   - Detection methods used:
     - Normalized forecast errors: Shewart, Tabular Cusum, V mask
     - Growth model component: positive values based on 95%CI

3. What did we find?
   ![Graph showing normalized forecast errors for different methods (Shewart, Tabular Cusum, V mask, Growth component)]
   - Should we look at the forecast errors? Or…
   - At the time-series growth component? Let’s try it!
   - Monitoring the growth component reduced the number of false alarms.

4. Conclusion:
   - Monitoring the growth component reduced the number of false alarms.

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