Endemic disease dashboard (Edd)

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Background

The endemic disease dashboard (Edd) was created by the Ministry for Primary Industries (MPI) Animal Health team with oversight from the Endemic Disease Forum, a committee of stakeholder groups representing most livestock animals.

The Animal Health team's workplan is focused on three main areas which support the team's vision to reduce the impact of endemic animal diseases in New Zealand. These are:

- Engagement with stakeholders with an emphasis on supporting the farmer-veterinarian relationship.
- Data collection, collation, interpretation, and distribution.
- Subject matter expertise.

Developing Edd allows the team to meet the objectives within these focus areas.

Objectives

The overarching objective of Edd is to provide farmers, veterinarians, industry, government and other animal health professionals with up-to-date information on the regional prevalence and risk rankings of endemic diseases for different species.

Edd is intended to:

- Help inform farmers about current disease prevalence in their geographical area. By doing this, it should increase awareness of diseases not currently managed under an animal health programme on-farm and encourage farmers to seek further advice when developing farm management plans.
- Act as a conversation starter and reference point for everyone involved in managing animal health.
- Provide information to the government about the prevalence of endemic diseases to help prioritise resource allocation for providing farmer assistance.

Design and development

The design and development of Edd took three years prior to the initial launch in December 2024. The process included major steps, namely, concept design, development and launch. Within these steps were the initial design, approved mock-ups, navigation, coding, information security and privacy, review, piloting and stakeholder feedback.

The team is now at the 'Launch' step which includes the presentation at the New Zealand Veterinary Association Conference, development and distribution of communication material for Edd, information sessions with the MPI On Farm Support (OFS) directorate and a social media launch.

As part of the design of Edd, data that is collected must be stored in a database prior to integrating with Edd. MPI's Surveillance Information Management System (SIMS) is being used for this purpose. A custom-built space was created for Animal Health data. All data that is collected from various sources is anonymised prior to upload into SIMS. Therefore, data transmitted to Edd for reporting is completely free of private information.

Function

Edd is a user-friendly, interactive web application that displays anonymised data visualisations (in the form of maps), a list of priority endemic animal diseases, and advice on best practice for managing priority endemic diseases.

The data visualisations comprise MPI and stakeholder data on endemic disease prevalence, down to a district level. Data is obtained from a combination of animal and herd testing at independent veterinary laboratories, MPI initiated surveillance projects, passive surveillance, and industry or organisation endemic disease management programmes.

The priority endemic animal diseases are based on a multiple criteria decision analysis and assessed on their economic, environmental, human health, socio-cultural and animal welfare impacts.

Edd also contains links to other stakeholder websites where existing information about endemic diseases and their management is available.

Wide range of uses

Additionally, Edd can be used:

- To provide information on priority endemic animal diseases (cause, effects, and management) to a general audience. Edd is not intended to be a platform to provide all information on endemic diseases.
- To measure disease management progress over time, regionally or nationally.
- To share links to other tools and resources created by the Animal Heath team, MPI or external stakeholders such as the BVD Risk tool.
- To host data from projects (e.g. the Chatham Island project, the North Island Weather Event funded "Vets on Farm" project, the bovine viral diarrhoea (BVD) testing on *Mycoplasma bovis* beef serum samples project, and the Livestock Improvement Corporation's BVD testing regime).
- As an extension tool by MPI's OFS personnel to help farmers navigate on-farm biosecurity and manage endemic animal diseases.
- To provide data on specific diseases (e.g. BVD) which can be used for MPI decision making relating to financial and other support.
- By other countries to gain confidence in New Zealand's endemic animal disease surveillance.

Future changes

During the security testing and review period of Edd, stakeholders provided feedback on the user interface and functionality. This feedback was assessed and prioritised by the Animal Health team and includes changes such as:

- Prevalence calculation breakdown,
- Adding data sources, and
- Filtering on impacts scores.

Additionally, to enhance the user experience and benefits, the team suggested an additional feature to Edd. This feature will include a separate tab with the New Zealand map, highlighting endemic animal disease outbreaks and interesting cases investigated by MPI's Biosecurity Incursion Investigators and identified through MPI's Animal Health Surveillance programme. This information is currently published as written articles in the Surveillance magazine. By including these cases in Edd, it would gain further reach to farmers, veterinarians and other animal health professionals in a short, simple and easy to read format.

These changes are planned for design and implementation by mid-2025.

Conclusion

Widespread use of Edd will raise farmer, veterinarian, industry and government awareness of endemic animal disease prevalence and distribution. This will promote informed animal health decision-making, using knowledge and understanding of the disease risks in the region and in New Zealand. This can help improve animal health outcomes, increase farm productivity and decrease environmental impacts.

Together we can make a difference.