AI use in veterinary services and regulation

2025

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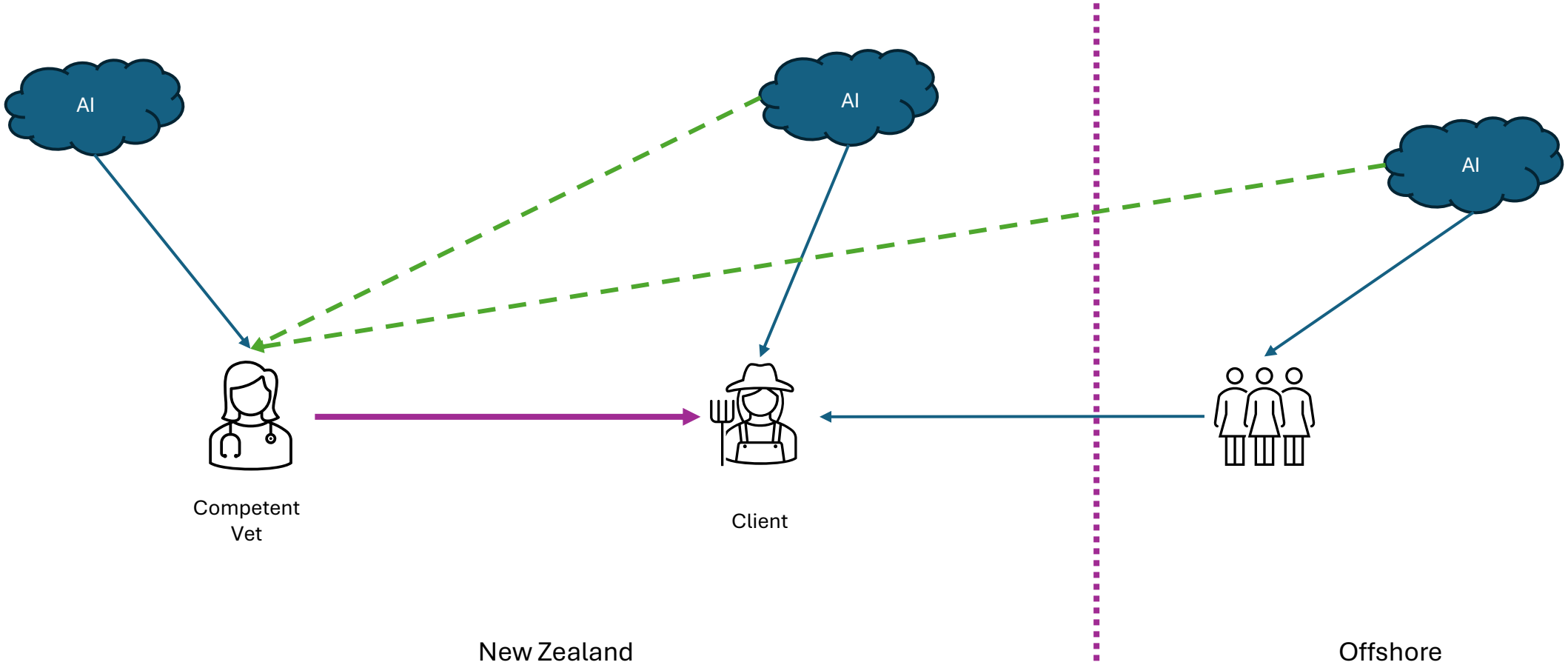
What are the benefits of using AI in a veterinary setting?

1. **Enhanced Diagnostic Accuracy**: AI algorithms, especially in imaging, can detect anomalies that might be missed by the human eye. This leads to early detection of diseases like cancer or hip dysplasia, improving treatment outcomes and reducing misdiagnosis rates.
2. **Predictive Health Management**: By analyzing large datasets, AI can predict the likelihood of future health conditions. This is crucial for preventive care, allowing veterinarians to implement early intervention strategies, potentially saving lives and reducing long-term healthcare costs.
3. **Personalized Treatment Plans**: AI can create customized treatment plans based on an animal's unique health profile. This precision approach leads to more effective and efficient treatments, enhancing the overall quality of care.
4. **Streamlining Clinical Workflows**: AI automates routine tasks in veterinary clinics, such as managing patient records and scheduling appointments. This frees up veterinary professionals to focus more on clinical care and less on administrative duties.
5. **Telemedicine and Remote Monitoring**: AI-powered telemedicine platforms enable remote consultations and virtual veterinary assistance, making veterinary care more accessible, especially in rural or underserved areas.

Context for AI use



Veterinarian decisions:

- Consultancy / advice
- RVMs
- Procedures

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Some risks and examples of where the use of AI may lead to a compromise of veterinary ethical standards

1. Data Privacy and Sovereignty

- **Example**: An AI tool used for diagnostic purposes collects and stores sensitive client and patient data without proper encryption or consent. If this data is breached, it could lead to significant **privacy violations** and loss of client trust.

2. Algorithmic Bias

- **Example:** An AI system trained on a biased dataset might provide less accurate diagnoses for certain breeds or species. This could impact treatment outcomes and **compromising the standard of care**.

3. Over-Reliance on AI

- **Example**: A veterinarian might rely too heavily on AI for decision-making, **neglecting their clinical judgment and experience**. This could lead to inappropriate treatments or missed diagnoses, as AI tools may not account for all nuances of a case.

4. Transparency and Informed Consent

- **Example:** Failing to inform clients about the use of AI in their pet's diagnosis or treatment plan. This lack of transparency can undermine trust and **violate ethical standards of informed consent**.

5. Ethical Use of AI

- **Example:** Using AI tools that have not been adequately validated or tested or that has been trained on a limited dataset in veterinary settings. This can lead to inaccurate results and potentially harm animals, **violating the ethical principle** of "do no harm".

6. Complex Cases :

- **Example:** AI may struggle with complex or rare conditions that require nuanced understanding and experience. In such cases, the AI might provide **incorrect or incomplete diagnostic information**.

What is the current NZ regulatory framework as it relates to AI?

The NZ Government cabinet paper "**Approach to work on Artificial Intelligence**" advocates for New Zealand taking a "*light touch, proportionate and risk-based*" approach to regulating AI, utilising **existing legal frameworks** rather than introducing bespoke AI laws.

What is the current legal regulatory framework as it relates to AI?

Government Initiatives

- **Public Service AI Framework**: Supports the responsible use of AI across the public service, emphasizing safety, transparency, and ethical use.
- **National AI Strategy**: Aims to harness AI's potential for public services and economic growth.
- **Algorithm Charter for Aotearoa New Zealand**: Commits government agencies to improve transparency and accountability in their use of algorithms.

Cultural Considerations

- **Te Tiriti o Waitangi** (The Treaty of Waitangi): Ensures AI applications respect Māori data sovereignty and cultural values.
- **Māori Data Sovereignty Network**: Advocates for greater control over how data about Māori is collected, stored, and used.

What is the current legal regulatory framework as it relates to AI?

Intellectual Property

- **Copyright Act 1994**: Addresses the legal grey areas in AI-generated content, ensuring that intellectual property rights are protected.
- **Patent Act 2013**: Governs the patentability of AI inventions and innovations.

Anti-Discrimination Laws

- **Human Rights Act 1993**: Ensures AI systems do not perpetuate discrimination or bias.
- **Guidelines from the Human Rights Commission**: Provide specific directions to prevent AI from discriminating against individuals.

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Existing Laws

- **Animal Welfare Act:.** This Act sets out the obligations of animal owners and those in charge of animals to ensure their welfare
- **Codes of Animal Welfare**: These codes provide detailed guidelines on the minimum standards of care and best practices for various species and situations.
- **Animal Welfare Regulations**: These regulations specify detailed requirements for the care and treatment of animals, including specific procedures and conditions that must be met to ensure animal welfare

Ethics Principles

The AI Forum of New Zealand has developed principles for "Trustworthy AI in Aotearoa New Zealand," focusing on:

- **Transparency**: Ensuring AI systems are understandable and their decisions explainable.
- **Fairness**: Preventing AI from amplifying biases.
- **Accountability**: Holding developers and users accountable for AI systems.

Industry-Led Initiatives: Various agricultural and livestock industry groups in New Zealand have developed their own voluntary standards and certification programs. These initiatives often go beyond legal requirements to promote higher welfare standards and the responsible use of technology

What is the current legal regulatory framework as it relates to AI?

Privacy Laws

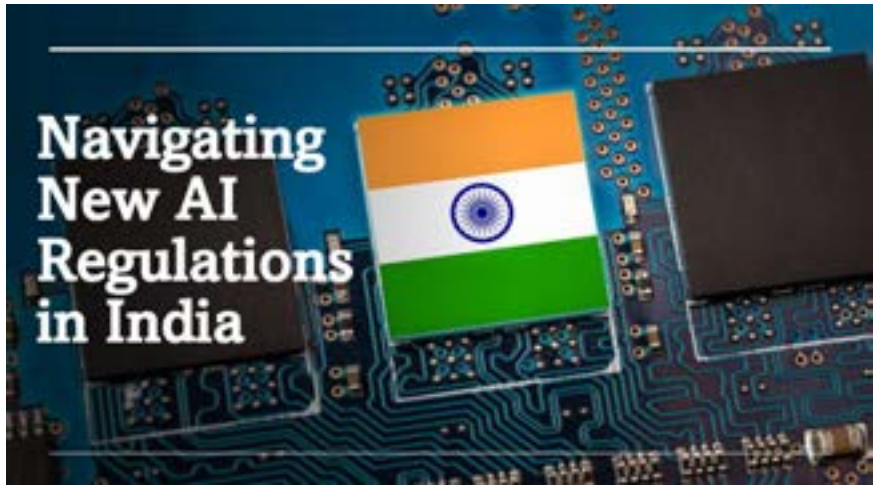
- **Privacy Act 2020**: Central to AI regulation, mandating responsible handling of personal information.
- **Guidance from the Office of the Privacy Commissioner**: Ensures AI tools comply with Information Privacy Principles (IPPs) to protect individuals' privacy.

Company Directors' Responsibilities

Under the **Companies Act 1993**, company directors in New Zealand have several key duties:

- **Act in Good Faith and in the Best Interests of the Company**: Directors must prioritize the company's success above personal gain.
- **Protect the Company's Assets**: Directors should safeguard the company's assets and ensure they are used appropriately.

What is the current international regulatory framework as it relates to AI?



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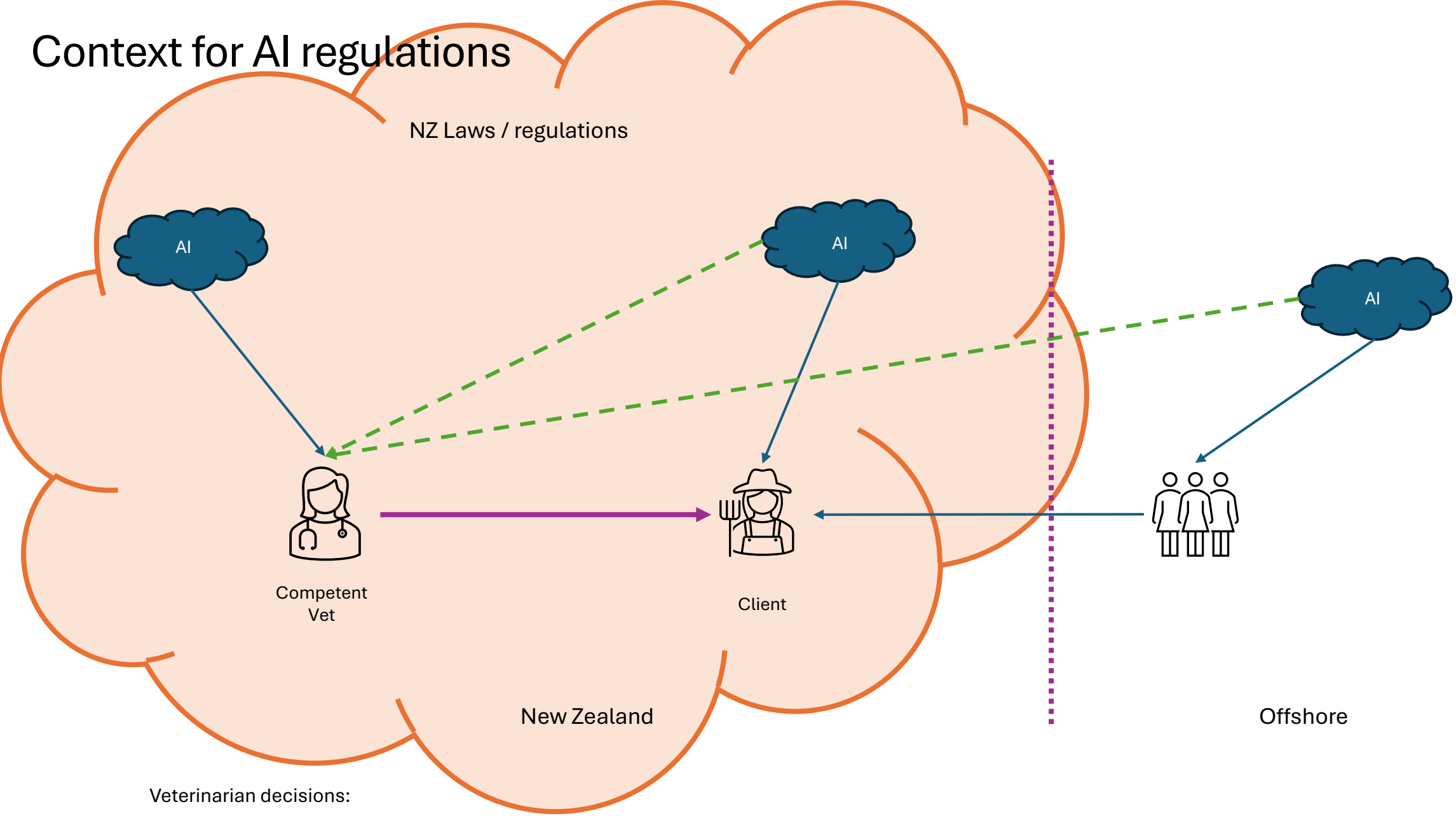
Context for AI regulations



Veterinarian decisions:

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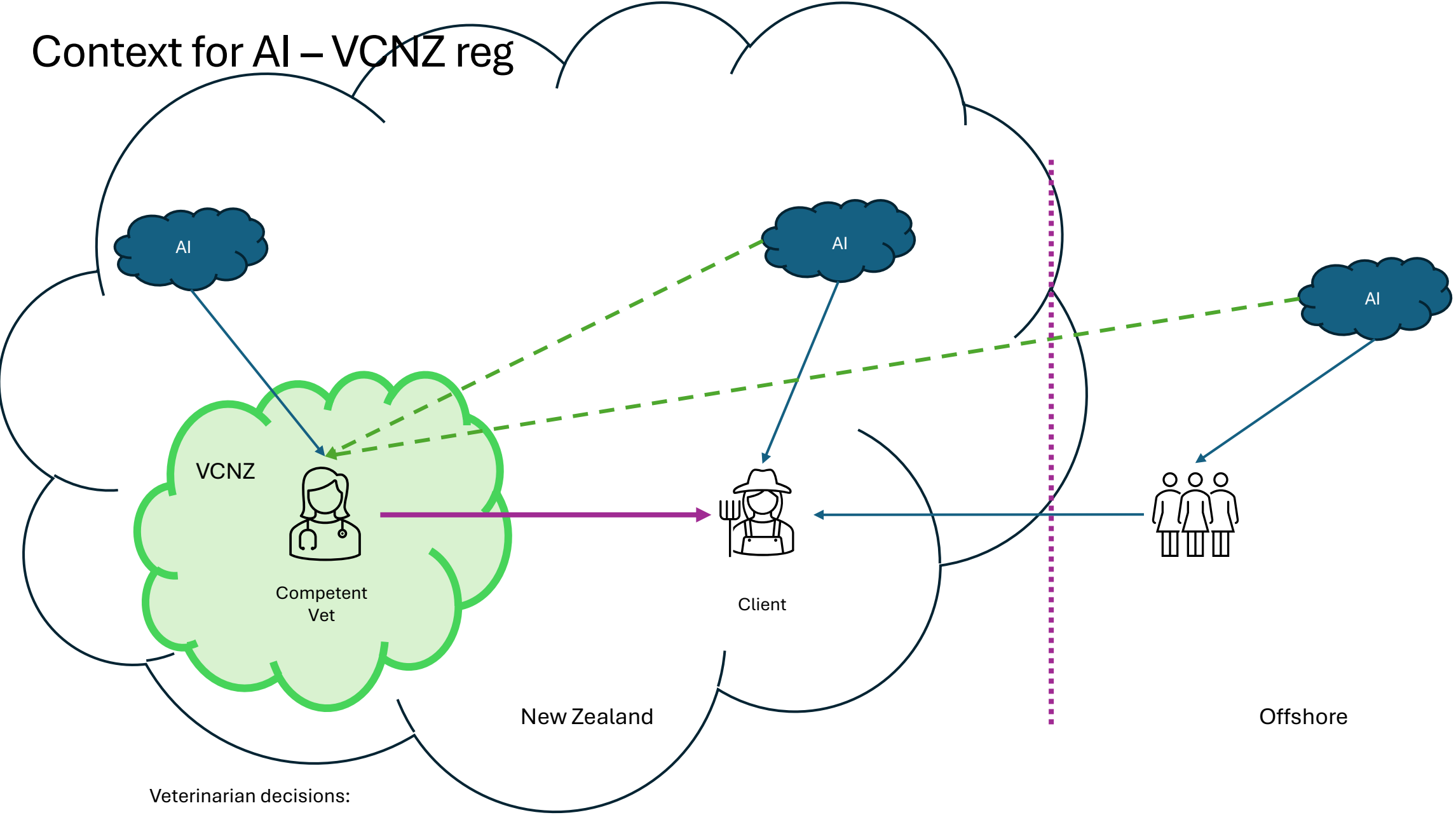
Context for AI – VCNZ reg



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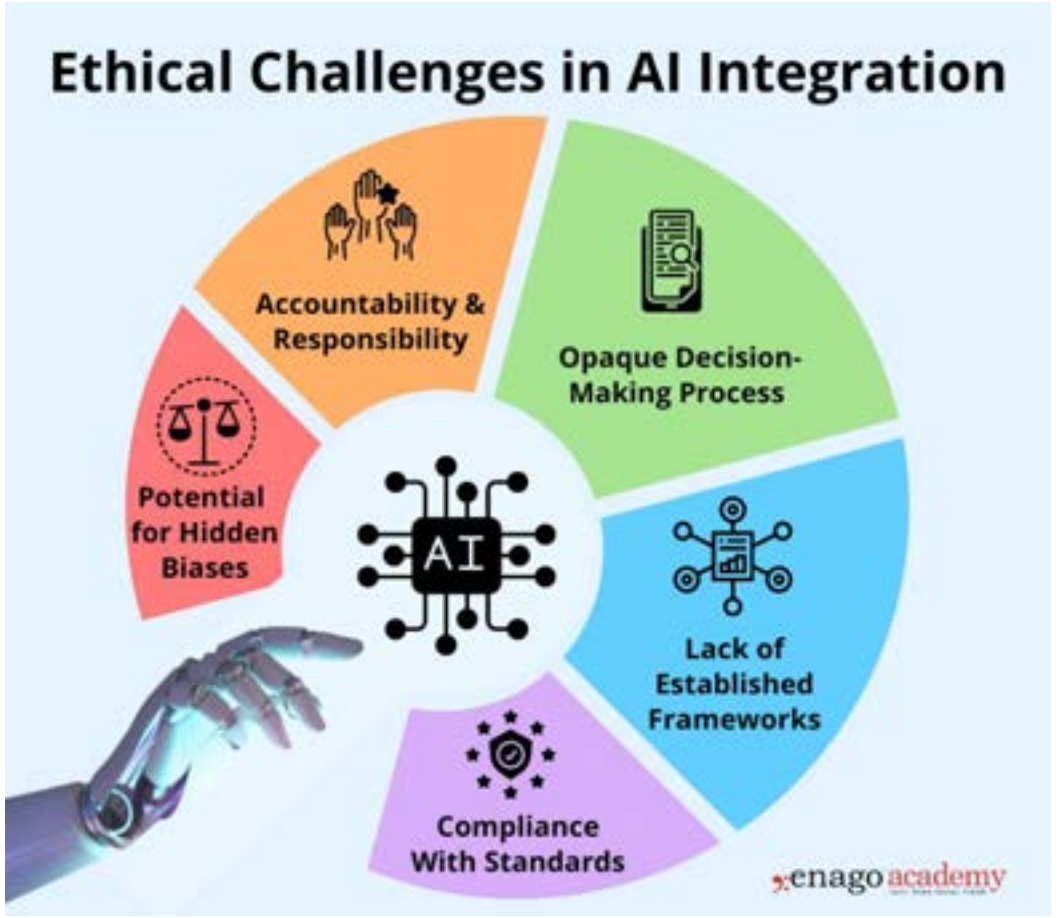
How the NZ veterinary standards govern a veterinarians decision making and accountability

Code of Professional Conduct

Competency Standards and Performance Measures



How the NZ veterinary standards govern a veterinarians decision making and accountability

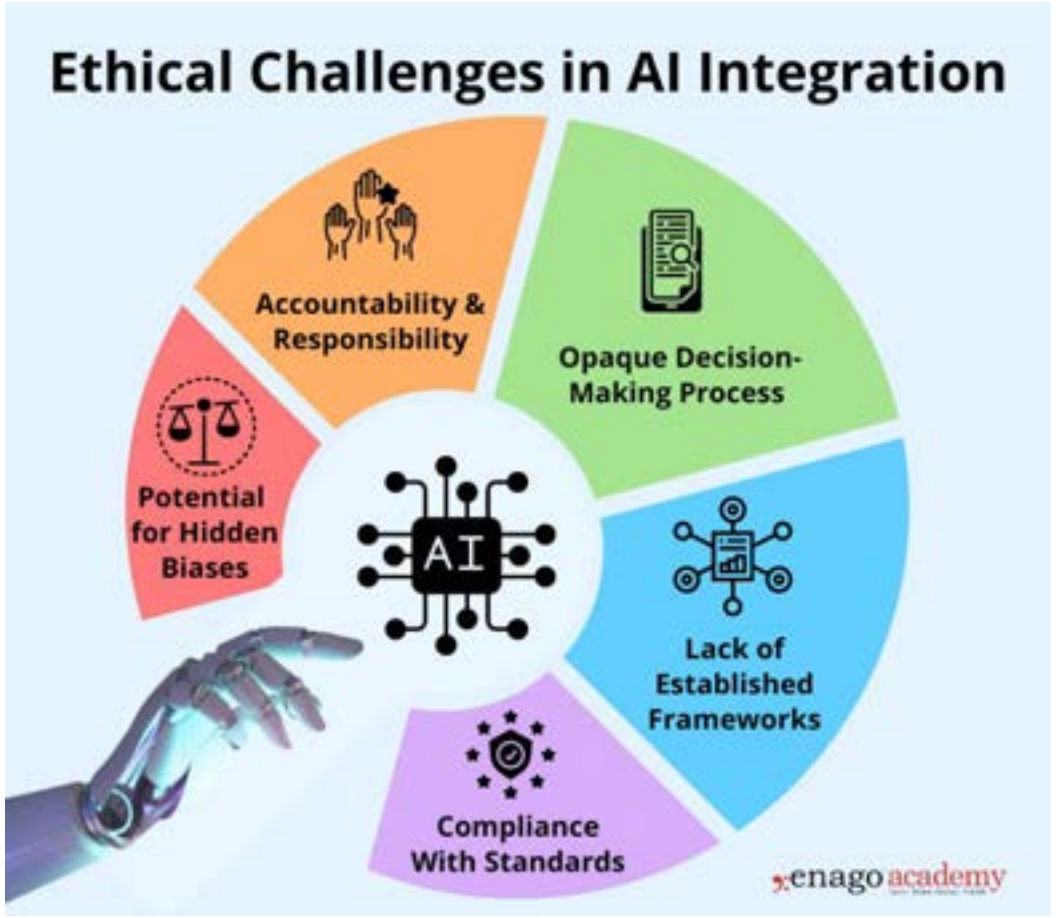
Key principles

Evidence based approach

Professional judgement

Reasonable decision making

Reference to the standards in the Code



How the NZ veterinary standards govern a veterinarians decision making and accountability

Application of AI to Evidence-Based Practice:

- When using AI tools, veterinarians must ensure these tools are backed by robust **scientific evidence**.
- They should rely on AI systems validated through clinical trials and peer-reviewed research to ensure accuracy and reliability.
- Continuous professional development should include training on the latest AI technologies and their applications in veterinary medicine.

How the NZ veterinary standards govern a veterinarians decision making and accountability

Application of AI to Data Privacy and Sovereignty:

- Veterinarians must ensure that any data used by AI systems is handled in compliance with privacy laws. This includes obtaining informed consent from pet owners, securely storing data, and ensuring data sovereignty by processing data within the legal jurisdiction it was collected.
- They should implement robust data protection measures to prevent unauthorized access and breaches.

How the NZ veterinary standards govern a veterinarians decision making and accountability

Application of AI to Algorithmic Bias:

- Veterinarians need to **be aware of potential biases** in AI algorithms. They should choose AI tools designed to minimize bias and regularly review AI outputs to ensure fairness and accuracy.
- Understanding the data sets used to train AI systems is crucial. Veterinarians should be vigilant about any disparities in treatment recommendations and address them promptly.

How the NZ veterinary standards govern a veterinarians decision making and accountability

Application of AI to Ethical Standards:

- The use of AI in veterinary practice must align with ethical standards. AI tools should enhance, not replace, the veterinarian's **expertise and judgment**.
- Veterinarians should be transparent with clients about the role of AI in their decision-making process and ensure AI recommendations are in the best interest of the animal's health and well-being.

How the NZ veterinary standards govern a veterinarians decision making and accountability

Use of AI and Professional Judgment

When integrating AI into their practice, veterinarians must:

- Ensure that AI tools are used to enhance, **not replace**, their expertise and judgment.
- Regularly review AI outputs to ensure they are **accurate and reliable**.
- Be transparent with clients about the role of AI in their decision-making process.

Where mistakes are made by AI systems when being used by veterinarians – how would accountability be determined?

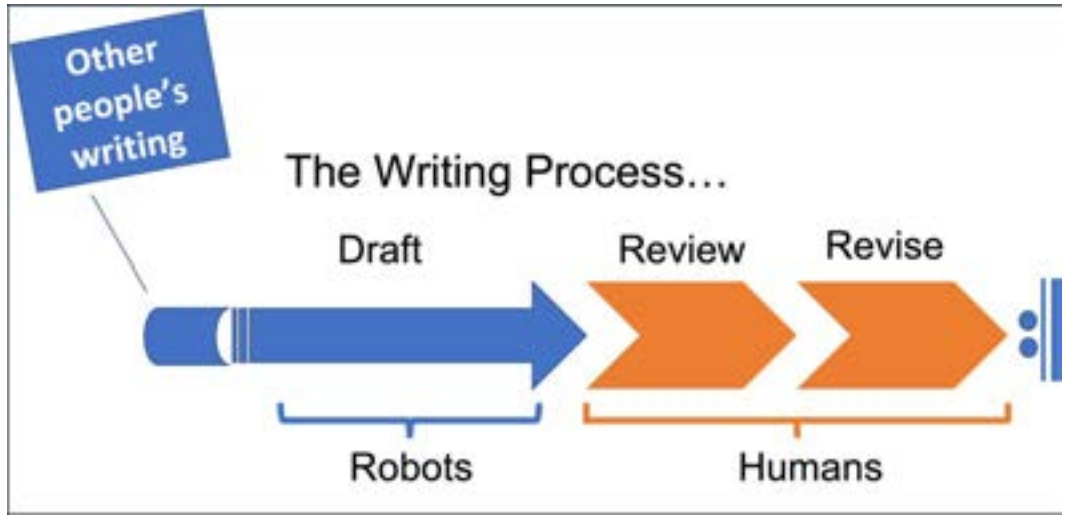
- **Professional Responsibility**:

  Veterinarians are **ultimately responsible** for the care and treatment of animals. Even when using AI tools, they must ensure that the technology is used appropriately and that decisions are made based on sound professional judgment. If an AI system makes a mistake, the veterinarian using the system would be accountable for making **reasonable efforts** to verify and validate **the AI** and its **recommendations** before acting on them.

- **Transparency and Informed Consent**:

  Veterinarians should inform clients about the use of AI in their practice, including the potential benefits and limitations. This transparency helps ensure that clients understand the role of AI in their pet's care and can make **informed decisions**. If an AI-related error occurs, the veterinarian must communicate this to the client and take responsibility for addressing the issue.

Summary:



To mitigate these risks, it's important to:

- use AI as a **supportive tool** rather than a replacement for veterinary expertise. Ensuring proper training, regular updates, and ethical guidelines can help integrate AI effectively and safely into veterinary practice.
- have robust development practices, thorough testing, and continuous monitoring of AI systems.
- take a careful and ethical approach to the integration of AI in veterinary practice.
- ensure transparency, accountability, and human oversight.
- ensure an informed consent approach is adopted when implementing AI tools into clinical practice

Discussion time