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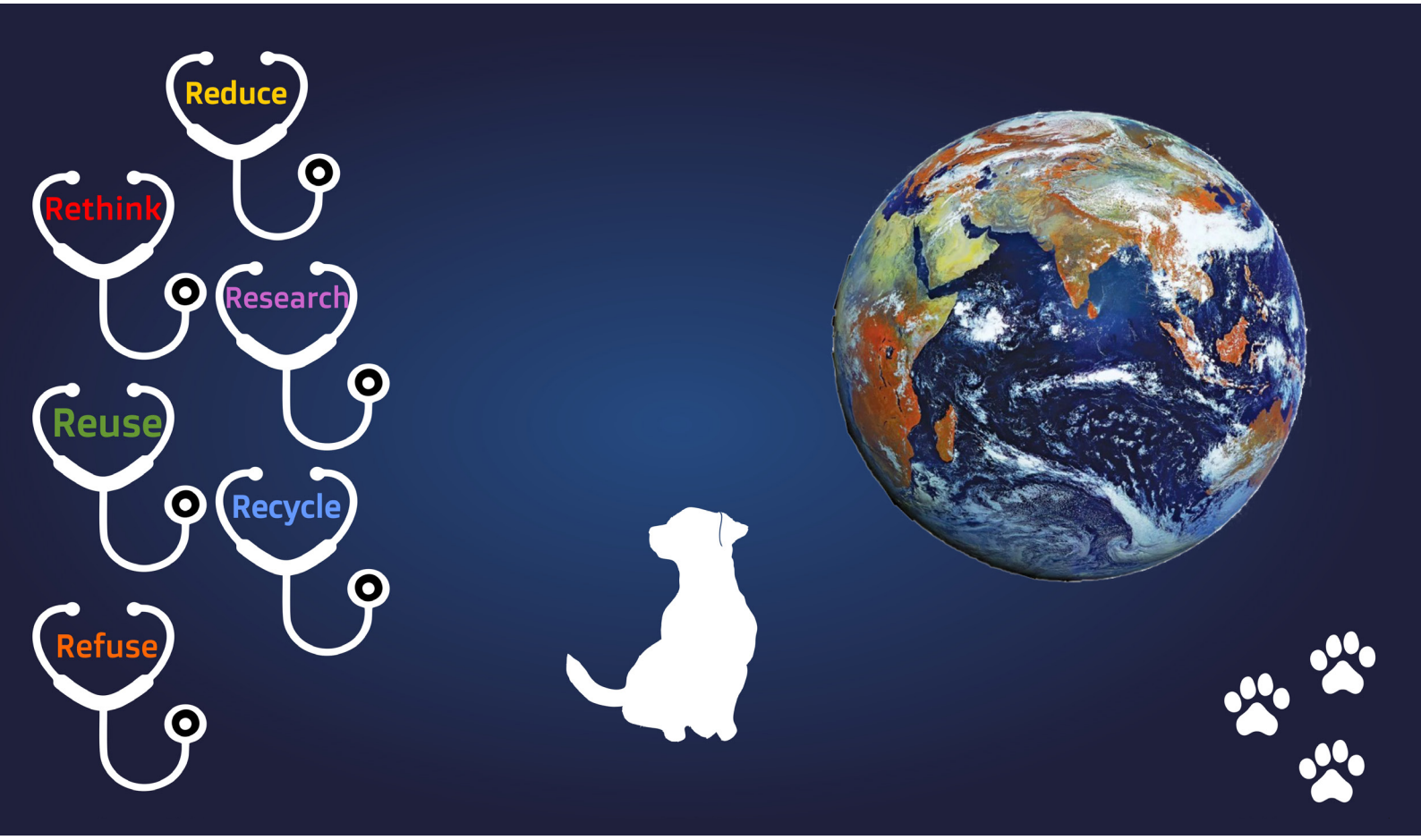
Junie / June 2025

The Monthly Magazine of the SOUTH AFRICAN VETERINARY ASSOCIATION
Die Maandblad van die SUID-AFRIKAANSE VETERINÊRE VERENIGING



THEME

Food Safety and One Health

South African Veterinary Association
Suid-Afrikaanse Veterinêre Vereniging

CPD

Respiratory disorders of backyard poultry – Part 1 of 2: Viral Conditions

Access to CPD Articles:

CPD CONTINUING PROFESSIONAL DEVELOPMENT

https://www.sava.co.za/vetnews-2025/

Dagboek • Diary

Ongoing / Online 2025

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Acupuncture – Certified Mixed Species Course
Info: Chi University:
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SAVA Johannesburg Branch CPD Events
Monthly - please visit the website for more info.
Venue: Johannesburg Country Club
Info: Vetlink - https://savaevents.co.za/

June 2025

Eastern Free State Branch Congress
06-07 June
Venue: Protea Hotel, Clarens
Info: conference@savetcon.co.za

MPO First-Ever Total Mixed Ration (TMR) Conference
08 -10 June
Venue: Radisson Hotel, O.R. Tambo Airport (Gauteng)
Info : The Milk Producers' Organisation (MPO),
Lize Marié du Toit - lizem@mpo.co.za or 076 774 1284

July 2025

55th Annual SASAS Congress
08 -10 July
Venue: Protea Hotel, The Ranch Resort, Polokwane
Info: https://www.sasascongress.co.za/

Hill's & MSD Nurses Weekend
26-27 July
Venue: Houw Hoek Hotel, Grabouw
Info: corne@savetcon.co.za

NVCG Bush Break
26-27 July
Venue: Nombolo Mdhluli Conference Centre, Skukuza,
Kruger National Park, Mpumalanga
Info: https://vetlink.co.za/BUSH-BREAK-26-27-JULY-2025/

August 2025

Western Cape Branch Congress
01-02 August
Venue: Protea Hotel, Marriott Stellenbosch & Conf Centre
Info: https://vetlink.co.za/western_cape/

14th International Veterinary Immunology Symposium
11-14 August
Venue: Hilton Vienna Park, Austria
Info: corne@savetcon.co.za or visit www.ivis2025.org

22nd Annual SASVEPM Congress
20 -22 August
Venue: ANEW Resort White River, Mpumalanga, SA
Info: https://sasvepm.org/ or conferences@vetlink.co.za

September 2025

Eastern Cape and Karoo Branch Congress
12-13 September
Venue: Radisson Blu Hotel, Port Elizabeth
Info: https://vetlink.co.za/eastern_cape_and_karoo_branch/

5th International Congress on Parasites of Wildlife and 53rd Annual PARSA Conference
14-18 September
Venue: Skukuza, Kruger National Park, Mpumalanga
Info: corne@savetcon.co.za or visit www.savetcon.co.za

October 2025

Northern Natal and Midlands Branch Congress
11-12 October
Venue: Fordoun Hotel and Spa, Midlands
Info: https://vetlink.co.za/northern_natal_and_midlands/

The Middle East & Africa Veterinary Congress (MEAVC)
17 -19 October: Pre- and Main Congress Workshops
Venue: Jafza One Convention Centre, Dubai
Info: www.meavc.com

Northern Cape and Free State Branch Congress
18-19 October
Venue: To be confirmed (Bloemfontein)
Info: conference@savetcon.co.za

KwaZulu-Natal Branch Congress
25-26 October
Venue: San Lameer Resort, Southbroom
Info: www.vetlink.co.za

11th International Sheep Veterinary Congress
27-31 October
Venue: Wollongong, New South Wales, Australia
Info: https://intsheepvetassoc.org/11th-isvc-2025

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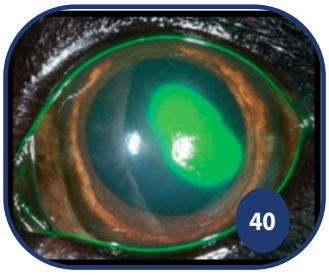

CPD CONTINUING PROFESSIONAL DEVELOPMENT

Click on the image to access Vetnews CPD articles

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From the President

Dear members,

Stronger Together – Advancing One Health

This month's *One Health* theme could not be more relevant. As the interconnectedness of human, animal, and environmental health becomes increasingly evident, veterinary professionals are called upon to lead with purpose. Our role extends far beyond animal health and welfare; we are also guardians of public health and active contributors to sustainable agricultural systems.

A critical One Health focus area is antimicrobial resistance (AMR). While codes guiding responsible antimicrobial use exist in intensive production systems, veterinarians play a central role in ensuring that antimicrobial use in food-producing animals is prudent, science-based, and ethically sound. Beyond prescribing these medications, our profession is key to surveillance, public education, and shaping policy at national and sectoral levels.

The SAVA Medicines Committee, the South African Animal Health Association, industry representatives, and other stakeholders joined forces to form an Antimicrobial Alliance, a significant step towards a unified national approach. The Alliance, in collaboration with the Department of Agriculture and stakeholders in academia, will host a virtual dialogue, anticipated in July, to align strategies, improve data-sharing frameworks, and integrate academic research into practical and regulatory frameworks.

Additionally, Dr Catriona Lyle, a member of the Ministerial Advisory Committee on AMR, has called on all SAVA species groups to update their Responsible Antibiotic Use Guidelines, aligning them with European Medicines Agency (EMA) standards. SAVA is proud to support and champion such initiatives, reinforcing the role of veterinarians in shaping One Health strategies.

In parallel, preparations for the 2025 SAVA Congress are underway. The Congress will serve as a vital platform for showcasing innovation, research, and multidisciplinary collaboration. We invite all members to participate—whether by submitting abstracts, recommending speakers, or volunteering to lead. We are currently seeking a Chairperson for the Scientific Programme, and expressions of interest can be sent to president@sava.co.za.

As discussed in the last FEDCO meetings, Dr Marianne Lombard has kindly offered to revive the Vets in Industry Group. Members with an interest in veterinary roles within pharmaceutical, feed, and agribusiness sectors are encouraged to reach out to Sonja Ludik at sonja@sava.co.za. I would like to extend my sincere thanks to Dr. Marianne Lombard for her assistance in reviving this important group. The Vets in Industry Group has historically made significant technical contributions while also fostering a sense of community and social well-being among its members. Its revitalisation is both timely and welcome.

Ek moet dit weer beklemtoon! Biosecurity remains a top priority. The recent FMD outbreak extension into Gauteng underscores the need for heightened vigilance, particularly where animals from different sources congregate. The upcoming National Biosecurity Summit in mid-June will provide an important platform for stakeholders to collaborate on practical, sustainable strategies for biosecurity and disease prevention.

In early June, the SAVA Poultry Group will also host its AGM and Technical Session, continuing the sector's focus on the production of safe, nutritious food. As South Africa moves closer to employing avian influenza vaccination as a control tool, veterinarians across disciplines must work collaboratively to ensure effective and responsible implementation.

Finally, recent challenges faced by a major poultry company have highlighted the need for veterinarians to move beyond advisory roles and take up space as decision-makers in matters affecting animal welfare and production sustainability.

In every one of the areas I've highlighted, our greatest strength lies in our ability to work together. As veterinarians, we are stronger when we collaborate across disciplines, engage with policymakers, and support one another through our shared commitment to health and sustainability. **Stronger Together** is more than just a slogan, it is a call to action.

Enjoy this month and may it bring you adventure and many family kaggel moments!

Warmest regards,
Ziyanda

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Editor's notes / Redakteurs notas

It is said that every year you should visit a place you have not been before. On the eve of an epic overlanding journey, and amidst all the chaos of lists, requirements and packing, I take a moment to consider our footprint.

It is far too simple to make it the problem of large companies, manufacturing or pollution, but what is my, as an individual responsibility to also limit my contribution to ultimately Climate Change?

I saw an insert on a recent Carte Blanche program on the cheap clothing industry. It is horrendous to see the amount of fast-fashion clothing that gets dumped in countries like Ghana.

On the beaches of Accra, you cannot reach the water's edge without walking on a mountain of clothing and plastic. Fast out-of-fashion items are brought by the bale-load into Ghana and resold to provide an income.

According to 2 articles featured in this month's magazine, the veterinary practice can contribute to being more green and reducing our footprint on Earth.

The only place we can live. Some of the steps to consider may seem trivial but if there is pressure to start doing it on a bigger scale, the impact can be significant.

I am proud that Vetnews is distributed largely electronically and does not add to the glossy paper pollution, which is more difficult to recycle than non-glossy paper. Even saving on the entire printing process is a positive step. We may have had a small run, but It is now avoided.

The other point touched is carbon emissions. An interesting article to read

I wish you all the best of June, and please accept my apologies if the July edition does not arrive with your morning coffee on the first working day of July, we will be working hard to make it happen soon after.

Andriette

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18-19 OCT — **SAVA Free-State & Northern Cape Branch Congress**
Bloemfontein

26-27 JUL — **Hill's Pet Nutrition & MSD Animal Health Nurses Hybrid Weekend**
Houw Hoek Hotel, Grabouw

30 OCT - 01 NOV — **10th South African Immunology Society Conference**
Garden Court Marine Parade, KZN

11-14 AUG — **14th International Veterinary Immunology Symposium**
Hilton Vienna Park, Austria

2026 1-4 JUN — **13th International Crustacean Society Conference**
STIAS, Stellenbosch

14-18 SEPT — **5th International Congress on Parasites of Wildlife and 53rd Annual PARSA Conference**
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THE CRUSTACEAN SOCIETY MID-YEAR MEETING

CREDO

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We, the members of the Association, resolve at all times:

- To honour our profession and the Veterinary Oath
- To maintain and uphold high professional and scientific standards
- To use our professional knowledge, skills and resources to protect and promote the health and welfare of animals and humans
- To further the status and image of the veterinarian and to foster and enrich veterinary science
- To promote the interests of our Association and fellowship amongst its members.

Ons, die lede van die Vereniging, onderneem om te alle tye:

- Ons professie in ere te hou en die Eed na te kom
- 'n Hoë professionele en wetenskaplike peil te handhaaf en te onderhou
- Ons professionele kennis, vaardigheid en hulpbronne aan te wend ter beskerming en bevordering van die gesondheid en welsyn van dier en mens
- Die status en beeld van die veearts te bevorder en die veeartsenykunde te verryk
- Die belange van ons Vereniging en die genootskap tussen sy lede te bevorder.

The path to Net Zero carbon emissions for veterinary practice

Jeremy A. Watson[1], Corinna Klupiec [2], Jane Bindloss [3] and Mariane Morin [4]*
[1] Brimbank Veterinary Clinic, Melbourne, VIC, Australia, [2] Metamorphomedia, Sydney, NSW, Australia,
[3] SANE Veterinary Management, Melbourne, VIC, Australia, [4] Thornbury Veterinary Hospital, Melbourne, VIC, Australia

The urgent need to reduce greenhouse gas emissions in line with the Paris Agreement is a compelling reason for the entire veterinary profession to act on climate change because of its impact on animal health. This perspective aims to provide a business framework that veterinary practices can use to implement the path to Net Zero carbon emissions. Practice management is identified as a key stakeholder capable of implementing significant change within the sector. Climate-related business opportunities and challenges are identified and integrated into a stepwise process for practices to follow. The pathway requires establishing a culture of sustainability within the veterinary team, measuring and reporting emissions, setting targets and systematically prioritizing reductions.

Practices can begin this process immediately by reducing emissions under the direct control of the business (Scope 1) and emissions from electricity purchases (Scope 2). To complete the pathway, emissions from all other activities (Scope 3) will need to be reduced and offset. Reduction of Scope 3 emissions is more challenging and will require collaboration between all supply chain stakeholders. The progression of climate change is now inevitable and a proactive approach from veterinary leaders, in particular practice management, will provide new opportunities, manage risks and inspire the broader veterinary sector to join their efforts to achieve a better future for animal health.

1. Introduction

Climate change is having a significant and continuing impact on animal health (1–7). It is now well established that climate change is caused by human activity and therefore everyone, including the veterinary sector, has an important role to play in responding to this situation (8, 9). Mitigation of climate change and its impacts requires maximal reduction of anthropogenic greenhouse gas emissions. For residual emissions that cannot be avoided, offsetting can be used so that the net impact on climate change is zero. This is known as Net Zero emissions, commonly shortened to Net Zero. In this perspective, we propose a framework for veterinary businesses to implement a pathway to Net Zero carbon emissions. Our focus is on small to medium-sized veterinary practices; however, the principles can be applied to businesses of any size. Integrated action by all veterinary businesses will be crucial for accelerating the decarbonization of the veterinary sector in line with globally accepted emissions reduction timelines.

The Paris Agreement aims to keep global warming to 1.5°C, or as near as possible, above pre-industrial levels (10). The window of opportunity to meet the 1.5°C target is rapidly closing; to accomplish this goal, global greenhouse gas emissions must be reduced by 45% by 2030 (from 2010 levels), and Net Zero emissions must be achieved by 2050 (10, 11). However, the current trajectory is for greater than 2°C of global warming (10). The difference between 1.5°C and 2°C will have a significantly greater impact on animal health and society in general (10, 12).

The veterinary sector has an important role to educate and inspire the community to deal with this issue (13). When compared to the broader non-science-trained community, the background of veterinarians provides them with an advantage in being able to analyze, comprehend and communicate climate science (14). The community looks to veterinarians to provide leadership on issues of animal health which should include education about the impact of climate change.

Research indicates veterinarians understand that human-induced climate change is occurring, and there is a desire to take action in their professional lives, but this has not resulted in corresponding change within the businesses in which veterinarians work (13–17). To drive the implementation of a path to Net Zero within the veterinary sector, veterinary practice management needs to combine the imperative of climate science with the opportunities and challenges it presents and align this with existing business management structures, opportunities and obstacles.

There is published work providing examples of common opportunities for emissions reduction in veterinary practice (18, 19). To drive impactful deployment of such activities throughout the sector, key business decision-makers need to be identified and provided with details of how to implement a pathway to Net Zero. Within veterinary practices, the business decision-makers are the owners and managers (management). They are the key stakeholders who allocate resources to implement the changes needed. When analyzing prospective changes, management will apply the fundamental business considerations of profitability, team purpose and client value. The inevitable progression of climate change will result in external pressures and internal opportunities requiring successful business responses with due consideration to all three of these factors (20).

External pressures include:

- Growing community expectations (14) ii. Attracting, motivating and retaining talented employees, particularly younger individuals who place value on practices demonstrating a clear commitment to their future (21, 22)
- Preparing for future compliance with government regulation and industry policy (23–26)
- Responding to climate-related business risks. The Task Force on Climate-Related Financial Disclosure is widely used in corporate risk reporting and can be applied to a business of any size (27). Climate risk is broken into:
  - Physical risks such as extreme weather events impacting business, staff, clients and patients, particularly in practices located in areas vulnerable to flooding or wildfire.

- Transitional risks: equipment and processes will become redundant in the transition to low-carbon alternatives. For example, gas heating will be replaced by electric heat pump alternatives and anaesthetic gases will need a zero-emissions alternative (28–32)
- Litigation risks: Especially for corporate entities, litigation risk may be present in the event of a failure to disclose climate risks to shareholders.

Internal opportunities include:

- Financial efficiency savings from supply chain review and implementation of new green technology (20)
- Alignment of caring for animal health with existing practice culture
- Increased client and staff loyalty by marketing businesses' climate change commitments (20, 33)
- Business growth by developing advice on emissions reduction in production animals. Improved animal health reduces emissions and improves productivity for producers (5, 34–36)

Considering these factors, the existing interest among veterinary teams to do more to address climate change is likely to increase. To drive meaningful progress towards Net Zero, veterinary managers must be equipped to make informed decisions and allocate the necessary resources within an appropriate framework (18). Practices will proceed down this path if they are aware of opportunities, and how they can be exploited and are provided with solutions to obstacles they may encounter.

Emissions reduction by business is now well developed in the corporate non-veterinary economy and guides the developing a pathway for the veterinary sector. In this perspective, we draw on this model to provide a framework for veterinary managers to follow (Figure 1). It begins with recognising the need for change and then implementing change within a well-defined pathway. Conceptually this perspective draws on "Targeting Net Zero – a strategic framework for business action" and applies this to the veterinary context (37).

2. The pathway to Net Zero for veterinary practice

2.1. *Aligning business culture and strategy*

Setting a culture of sustainability within the practice is a critically important foundation for a successful Net Zero strategy. In a busy practice, there are many daily touch points where the veterinary team needs to make routine decisions based on established criteria; for example, point-of-use recycling, anaesthetic flow rates and procurement options. Therefore, climate-related goals must become deeply embedded in the workplace culture. This change in mindset also needs to align with the existing strategy and purpose of the practice to avoid conflict with current budgets, timelines, stakeholders and targets (38).

In small to medium-sized veterinary practices, the workplace culture is influenced by the daily exposure of the team to the actions and attitudes of the senior practice principal(s) or onsite manager(s). As key stakeholders, these individuals must appreciate that a successful Net Zero strategy requires cultural change within the practice. Importantly, all team members need to understand climate change and believe their actions will contribute to reducing emissions. Tools that can assist with achieving these outcomes include free online materials, customized programs and external consultants (39–41).

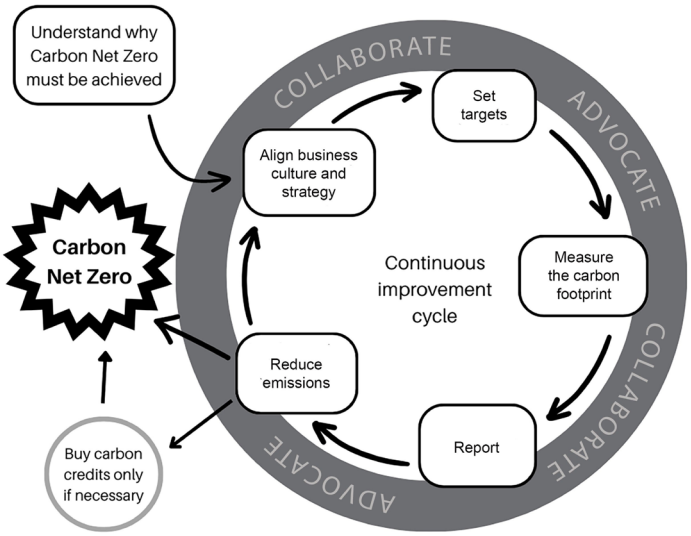

Figure 1: The path to Net Zero highlighting the importance of continuous collaboration, evaluation and improvement.

2.2. *Setting targets*

Once a practice has decided to implement a pathway to Net Zero it is important to set targets based on scientific evidence. Annual emissions reduction targets should be set following a near-term (5–10 year) target and the final target should be Net Zero by 2050. The Science Based Targets Initiative is an international standard which aligns with the 1.5°C pathway (Paris Agreement) and sets out key requirements for businesses to establish validated targets (42). It recommends setting a near-term target of a 50% reduction by 2030 and a 90% reduction by 2050, with residual emissions neutralized with carbon credits.

2.3 *Measuring the carbon footprint*

To calculate the carbon footprint, all emissions occurring as a result of the activities of the business must be identified and quantified (19). This can be facilitated by using published recommendations, customized carbon calculators, or the engagement of an external consultant (19, 43). Free online carbon calculators can also provide a useful starting point for some types of emissions (44).

When calculating emissions, it is important to define the boundary between what is, and is not, included. For example, a can of pet food consumed by a patient within the practice may be part of the footprint of the practice, but a can of pet food sold by the business and consumed offsite by the customer's pet may not. Comprehensive information about setting emissions boundaries is detailed in the Green House Gas Protocol (45).

It is also important to consider why the carbon footprint is being calculated as this will influence the level of accuracy and detail of the results. During the measurement process, the business also needs to consider how the results will be reported (see section 2.4)

>>>10

and to whom. For example, reporting to a public register to purchase carbon offsets may be different in detail from internal reporting to the veterinary team for emissions reduction. Furthermore, the process of calculating needs to be transparent so that year-on-year comparisons are meaningful as the business grows or if the methodology of calculation changes.

Emissions are divided into three categories (see also Table 1):

- Scope 1 – emissions produced onsite.
- Scope 2 – emissions produced from purchased electricity.
- Scope 3 – emissions that are triggered by the operation of the business due to the purchase and use of products and services.

Emission boundary	Common examples in the veterinary business
Scope 1	Gas/oil heating, combustion engine vehicles owned and used in the business, anaesthetic gas and escaped refrigeration gas
Scope 2	Electricity purchased from the grid
Scope 3	Waste disposal, water, employee commute, animal cremation, conference travel and expenses, in-house catering, medical consumables and chemicals, external consultants, delivery of supplies

TABLE 1 Examples of the three scopes of emissions commonly encountered in veterinary businesses

Published emission factors are used to convert usage data from each scope to equivalent tons of CO_2 emissions (CO_2e) (19, 46). Calculation of emissions factors is known as Life Cycle Analysis (LCA) and is a technical process involving "cradle-to-grave" carbon analysis which is usually financed and undertaken by the manufacturer (46). In the absence of LCA values, an estimate of the carbon footprint of these items is determined using the purchase price which is then converted to a CO_2 equivalent using internationally accepted accounting factors (economic input-output LCA) (47, 48).

A key recommendation of this perspective is to begin by measuring Scope 1 and 2 emissions. This data is easy to collect and there is direct control over emissions (19). For example, data is sourced from energy bills, vehicle odometer readings, maintenance reports and purchasing invoices. All veterinary practices can commence their path to Net Zero immediately by measuring usage of these items year on year and choosing lower carbon alternatives. This initial step does not require the use of carbon calculators or consultants to convert usage data into CO_2 equivalent.

The entire carbon footprint measurement is more complex and requires the inclusion of data for Scope 3 emissions, as these are likely to be the largest component of the three scopes (19). Measurement of some Scope 3 emissions is quite straightforward (e.g., employee commute, landfill waste volumes and water use), however, to be complete, medical consumables, chemicals, reagents and other items need to be included. For many of these, there are no published emissions factors, though data from the human health sector may be available (47).

More emphasis on LCA by suppliers is required to equip veterinary practices to measure Scope 3 emissions accurately (49). Due to the complexity of data collection and emissions conversion factors, using a carbon auditing consultant is recommended to calculate the entire carbon footprint of a practice.

2.4 Reporting

Reporting can be as simple as notifying internal management and the veterinary team to identify areas for reduction. More advanced public reporting either via the practice's communication channels or via a public register enables amplification of the value of achievements to the client base. There are numerous public registers (45). Registries may be administered by governments, non-government organizations (NGOs) or industry groups and may provide advice on emissions reductions. Reporting to other stakeholders in the value chain is increasingly important (45).

As a minimum, Scope 1 and 2 emissions should be reported (19). If only Scope 1 and 2 emissions are measured, it must be clear in any public reporting that Scope 3 emissions are excluded. When Scope 3 emissions are included, calculation of the total carbon footprint to an acceptable international standard, suitable for reporting on a reputable public register, is a more complex task (45, 50). Using the services of a specialist consultant is recommended as process integrity is important to avoid the challenge of making false advertising claims, also known as "greenwashing".

2.5 Reducing emissions

Implementing reduction strategies can be prioritized once emission sources are understood. Specific veterinary emissions reduction strategies have been published by several authors (19, 29, 40, 51). Scope 1 and 2 emissions should be the priority for reduction given they are easily measurable and are under direct control of the business. Many of these emissions have zero-emission options available, often with cost-efficiency gains. One significant industry-specific challenge for Scope 1 reduction in the veterinary sector is to achieve a zero-emission alternative to current anaesthetic gas use (16, 28–30, 52). Scope 3 emissions have some existing solutions, for example, employees could commute by electric vehicles powered by renewable electricity. Other more complex specific veterinary/medical items such as disposable surgical items, chemical reagents and single-use hospital consumables will require further research and technological advances to find zero-carbon alternatives. While reduction of Scope 3 emissions is a crucial component of achieving Net Zero within the veterinary sector, "greening" of the supply chain goes beyond the responsibility of the end-user and will require collaboration between all stakeholders, including manufacturers and distributors. Models for working with suppliers on integrated solutions within the human health sector, such as the National Health Service (NHS) supplier roadmap, could be adapted for the veterinary sector (49).

1.2 Purchasing carbon credits

For the veterinary sector to achieve Net Zero by 2050 some carbon credits will likely need to be purchased to offset emissions that cannot be eliminated. A carbon credit represents one ton of carbon

removed from the atmosphere. It must be permanent (>100 years), additional (i.e., a new or extra process), verifiable, audited and registered on a public register so it can only be used once. Carbon credits play an important role in reducing atmospheric carbon, supporting biodiversity and sustainable agriculture, however, the current market may be subject to irregularities and due diligence is recommended before purchasing (53). Once the carbon footprint has been calculated and audited, quality carbon credits can be purchased to neutralise any remaining emissions and reported on a public registry.

1.3 Advocating and collaborating

Publicly promoting the benefits of a sustainability program that includes emissions reduction creates client value. Clients are willing to pay more for services from a practice that has demonstrated sustainability achievements (33). Publicizing progress on sustainability provides leadership to colleagues, team members and clients, and encourages others to join and support the efforts of the business. This can create positive feedback loops.

2. Discussion

The veterinary profession is becoming increasingly aware that it will be confronted directly by the impacts of climate change, and that it has an obligation to take meaningful action to help safeguard animal health (8, 9, 17–19). Veterinary practice management is a key stakeholder in this process, as it has the power to provide leadership and allocate appropriate resources to a mitigative response. This perspective identifies how emissions reduction can be achieved by embracing a structured pathway to Net Zero. However, this systematic approach represents a significant shift for many veterinary practices and several knowledge gaps and obstacles must be addressed to ensure its successful deployment.

Further research is needed to evaluate the awareness of veterinary management of the rationale for Net Zero and the level of motivation to implement emissions reduction strategies. A greater understanding of mechanisms for promoting participation in, and "ownership" of, a Net Zero pathway by all members of the veterinary team would also be beneficial. The resulting information could be used to design education programs to stimulate business engagement. These could be delivered through existing management information channels such as education institutions, symposia, advocacy groups, professional associations, supply company representatives, publications, social media, and conversations between colleagues (13, 54).

Measuring and reporting on emissions are key components of a Net Zero strategy. Time constraints and technical complexity involved in measuring are barriers that could be addressed with the development of software programs that capture and analyze data. This is already occurring in the wider corporate sector (35). Difficulties in measuring Scope 3 items include the lack of data for the life cycle analysis of specific medical products. To address this, stakeholders can organize and collectively lobby manufacturers to undertake life cycle analysis and make the data available to the veterinary sector. Veterinary leadership organizations, such as professional and regulatory bodies, could provide stewardship in this process. Moreover, action towards Net Zero needs to be undertaken at all stages of a product's life, from manufacture to end use, to ensure that the responsibility for emissions reduction is borne appropriately by all relevant parties. Economic modelling that demonstrates cost savings from supply chain review and integration of green technologies would help justify expenditure on the specialist resources needed for accurate Scope 3 carbon auditing.

The long-term challenge with industry-specific veterinary/medical emissions is to develop zero-carbon alternatives. This will necessitate extensive collaboration. Engaging all stakeholders in the value chain by forming a task force is commonly used by government and industry leadership organizations in other sectors. Again, veterinary leadership organizations could coordinate such initiatives (23). A pathway to zero carbon anaesthesia could be used as a model that could subsequently be applied to other complex emissions (29).

Generic carbon registries are available to the veterinary sector, however, there is scope for veterinary professional organizations and regulators to develop a registration body for veterinary businesses to report their carbon footprint. This could provide Net Zero certification by offering carbon credits that benefit animal health, as well as being a conduit for industry-specific emission reduction resources.

The path to Net Zero can be achieved by following the process outlined in this perspective. The first steps are simple, clear and rewarding, however, solutions to complex Scope 3 emissions will be more challenging. Motivating the collective energy of the veterinary sector is urgently needed to collaborate and find solutions to help provide a better future for all animals.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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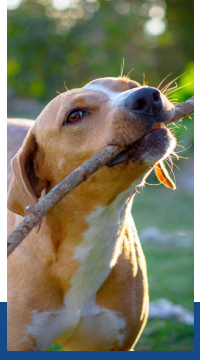
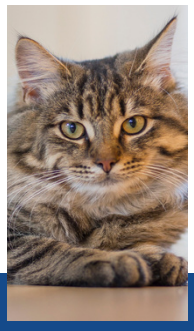
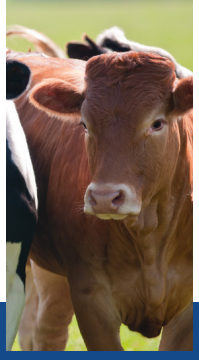

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A Practical Approach to Sustainability in the Veterinary Clinic

These 10 actions to improve practice and hospital sustainability can make a dramatic difference for the health of our planet.

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TVP
TODAY'S VETERINARY PRACTICE

The healthcare industry accounts for approximately 8.5% of the United States' annual global greenhouse gas (GHG) emissions.[1] This staggering statistic has driven many human medical facilities to embrace wide-ranging changes to reduce their carbon footprint.[2] Moreover, the provision of medical care has extensive ecological impacts that include pollution, waste disposal, freshwater use, eutrophication, extraction of primary resources, and land use change which further negatively impacts our health.[3] Veterinarians have a responsibility, alongside human medical providers, to adopt a leadership role in reducing the environmental impact of healthcare provision.[4,5]

Veterinarians can rapidly reduce the ecological impact of their hospitals by implementing various sustainability initiatives in everyday clinical practice. To more completely account for the social, health, and environmental cost of doing business, sustainable businesses embrace the triple bottom line, incorporating "people" and "planet" with "profit."[6] This is imperative in a world with increasingly costly but limited resources that are more challenging and expensive to acquire, notwithstanding the associated costs of pollution, limited fresh water, environmental degradation, and escalating waste accumulation.

There are co-benefits when transitioning to sustainable practice methods beyond the traditionally thought-of benefits of lowering GHG emissions, cost savings, and improved efficiency. These co-benefits include decreased waste; improved employee satisfaction and mental wellbeing (which may result in improved employee recruitment and retention); a safer working environment (e.g., reduction in the use of toxic chemicals); increased client loyalty, purchase, and return rates[7]; and community presence and engagement in local environmental stewardship.[8]

A set of practical actions is presented below on how to approach a veterinary practice's transition to more sustainable methods. This list is by no means exhaustive; however, it provides an initial foundation on which to build. The ease of implementation of each action and the realization by staff of the importance of this transition are critical aspects to ensure success. These ideas can be equally applied at home, increasing the impact of this guide by 1 to 2 orders of magnitude. Additional resources are available in

BOX 1 Veterinary-Specific Sustainability Resources

- ✓ **The Veterinary Sustainability Alliance: A nonprofit organization representing the North American veterinary industry that is dedicated to preserving and protecting animal and human health by promoting sustainability (veterinarysustainabilityalliance.org)**
- ✓ **Vet Sustain: Home of the U.K. veterinary carbon calculator and courses, Carbon Literacy for Veterinary Professionals and A Sustainable Approach to Clinical Veterinary Practice (vetsustain.org)**
- ✓ **VetSalus: Leads 2 comprehensive courses on veterinary approaches to food and farming (vetsalus.com)**
- ✓ **Vets for Climate Action: Hosts an extensive practice-based course, the Climate Care Program (vfca.org.au)**

Action 1: Form a Green Team

The first step in the process of transitioning a hospital to more sustainable methods is to form a green or sustainability team. The role of the team is to improve the sustainability of the practice by facilitating the transition with practical, measurable, and implementable actions. The core team should be multidisciplinary, and all sectors of the practice afforded an opportunity to be represented and involved, including veterinarians, veterinary nurses/technicians, custodians, client service representatives, and management. This enhances the collaboration of resources and ideas. Furthermore, robust support from management (by making a strong business case for sustainability) is crucial and will empower the team to succeed.[8]

Challenge: Incorporate sustainability into the core values of your business and its operations.

Action 2: Prioritize Sustainability Goals and Actions

Start with brainstorming meetings to identify the main areas of concern, interest, and opportunities for improvement. Then prioritize the initiatives proposed considering cost versus savings, ease of implementation, and effectiveness of action in reducing the environmental impacts. Early on, embrace and attain the "low-hanging fruit" goals to help drive momentum with easy rewards; build from there. To ensure the programs have their intended effect, it is vital to conduct a baseline estimation followed by ongoing audits to reevaluate the program. Quantify using measurable units where possible to enhance the accuracy of subsequent comparisons.[8]

Challenge: Calculate your practice's carbon footprint to determine where your greatest environmental effects are, and strive for the eventual adoption of the most impactful actions. The Veterinary Sustainability Alliance is currently working on a veterinary carbon calculator specifically for the United States.

Action 3: Embrace the Power of 100% Renewable Electricity

Approximately 11% of the United States healthcare GHG emissions come from electricity generation.[9] As states decarbonize and become less reliant on coal and gas for electricity production, this impact is falling rapidly. Solar, wind, geothermal, and hydrokinetic electricity generators are swiftly replacing fossil fuel plants.

Switching to a renewable zero-carbon or low-carbon electricity source is one of the easiest ways for a practice to immediately reduce its carbon footprint. Many electrical energy utility suppliers provide a simple link to opt in, with a low (and declining) cost differential. Contact your utility provider for options as every region varies. To further drive a shift to renewable energy, consider divesting from fossil fuels by banking and investing with institutions that do not invest in oil, gas, or coal.[10]

Challenge: Consider installing on-site photovoltaic solar panels or join a community-based micro-site renewable project.

Action 4: Electrify Everything

Approximately 7% to 14% of emissions from healthcare facilities come from stationary combustion (e.g., oil/gas furnaces, gas water heaters, gas clothes dryers) and mobile combustion (e.g., business-owned fleet vehicles).[11] Replacing these with electrically powered machines can eliminate these emissions. Today, there are extremely efficient and quiet heat/cool pump HVAC (heating, ventilation, and air conditioning) units, water heaters, and clothes dryers. Electric vehicles with a range of 300 to 400 miles or more are also available. There are also many Inflation Reduction Act (IRA) incentives for electrification. Use this calculator to determine yours: go.navc.com/3VociFt.

Challenge: Install electric vehicle chargers at your hospital for staff and client use. These can be obtained via purchase or a long-term lease agreement.

Action 5: Increase Energy Efficiency

Jevons paradox accounts for the rebound effect of increased use or consumption of material despite major efficiency improvements.[12] To this day, this holds true for energy. The cheapest and most effective way to be energy efficient is to reduce use: switch off appliances and lights when not in use, use motion or automated switch-off or power-down/sleep modes, use smart plugs to remotely time use periods, install LED lights, use natural light, purchase the highest Energy Star–rated reliable and readily serviceable appliances, cogitate appliance placement, turn off laser printers when not in use (as these consume much energy) or use inkjet printers, set HVAC thermostats in winter to 18 °C to 20 °C (64 °F to 68 °F) and in summer to 23 °C to 26 °C (73 °F to 78 °F), dress for the season, use ceiling fans, combine washing loads, wash laundry on a cool setting with appropriate detergents, and use a clothesline instead of a dryer.[13]

Challenge: Consider building upgrades, including insulating hot water pipes, replacing door seals to reduce drafts, sealing gaps and cracks, improving wall and roof insulation, installing a solar-powered roof cavity ventilator, and increasing building shade (with eaves, retractable awnings, and plants).

Action 6: Reduce Waste

For many practitioners, waste reduction can appear to be among the most challenging aspects of a sustainable transformation because so much of what is used is single-use and made of plastic.[14] Since 1950, approximately 9 billion tons of plastic have been produced worldwide with less than 15% recycled in the United States.[15] The U.S. healthcare system produces 5.9 million tons of waste annually.[16]

Despite these shocking numbers, with some effort, substantial waste reduction is possible. The first steps are to *rethink* all purchases and switch to *reusable* materials, including water bottles; surgical textile gowns, drapes, and cloth caps; and sterilizable instrument tins and equipment. *Refuse* and *reduce* the use of disposable plastics where possible. *Repair* materials and equipment. *Recycle* paper, metal, and most plastic materials and equipment when otherwise unrepairable, ensuring to deposit in a waste stream that can utilize the components. Lastly, *rot* all compostable material in appropriate aerobic sites that avoid the anaerobic conditions of landfills that create methane. Note that many materials are not truly compostable, so look for appropriate American Society for Testing and Materials labelling.

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See BOX 2 for specific ways to reduce landfill waste at your clinic.

BOX 2 Suggestions for Reducing Veterinary Clinic Landfill Waste

- ✓ **Contact your waste management facility for region-specific waste segregation/type of material accepted for recycling.**
- ✓ **Switch to reusable sharps containers. These are cheaper, safer, and much more environmentally friendly and can be reused more than 600 times.**
- ✓ **Downcycle standard nitrile gloves out of landfills and into buildings, roads, or other materials.[17] Fully biodegradable nitrile gloves that meet ASTM standards for resistance to permeation by chemotherapy are available.[18,19]**
- ✓ **ASTM-rated compostable poop bag options are available. Although dog and cat faeces are generally not compostable, these bags do not produce microplastics.**
- ✓ **Collect small aluminium pieces (e.g., scalpels, suture material packets) into baseball-sized clumps to allow segregation at recycling facility sort mechanisms; place into the municipal recycling bin.**
- ✓ **Consider TerraCycle pet food bags; downcycling/recycling options are available (terracycle.com).**

ASTM = American Society for Testing and Materials

It is also important to be mindful of drug wastage and to use good stocking principles while ensuring appropriate medication disposal; consider the consequences of chemical environmental contamination, including the consequences of parasiticide and antimicrobial use and disposal.[20]

Challenge: Perform a waste audit. This provides a measurable baseline for comparison over time to determine quantifiably whether implemented actions are having the intended effect.

Action 7: Consider the Life Cycle Assessment of Products and Services

Every product and most services impact the environment in multiple ways across the value and supply chain throughout their lifespan. A detailed analysis of this process is known as the life cycle assessment (LCA) of a product.[21] For an individual, gathering LCA information on products is challenging. Procurement guides are an essential tool. A veterinary-specific resource in the United States is the SAVE Veterinary Procurement Guide (go.navc.com/3yFVWyV).

Historically we have used a linear economy production model based on resource extraction, manufacturing, packaging and delivery, use, and discard. To become sustainable, it is vital to evolve a circular economy that strives to maintain materials within reuse, repurpose, repair, and recycle circuits, thereby limiting resource depletion, energy input, and waste accumulation. It is crucial to understand that there is a need for the veterinary and healthcare industries to rethink the design of products and services to minimize the environmental footprint over their lifetime.

Challenge: Contact your supplier for environmentally friendly products and services from companies with clear sustainability initiatives or those that hold B Corp certification. Discuss the consolidation of deliveries, reduction in packaging, and use of reusable and recyclable materials.

Action 8: Transition to Green Anesthesia

Waste anaesthetic gases (WAGs) become potent GHGs when exhausted into the atmosphere.[22] Desflurane (rarely used in veterinary medicine) and nitrous oxide (N_2O) are the greatest WAG contributors to global warming and should be avoided. Isoflurane is still about 3 times more impactful than sevoflurane and together with N_2O also degrades atmospheric ozone. A substantial drop in emissions can be achieved by the transition to sevoflurane, safe use of lower-flow gas anaesthesia (requires advanced technical skill), and, for the utmost reduction, the use of intravenous or regional anaesthesia. Practically, when WAG exhaust is considered for isoflurane and sevoflurane, they account for less than 0.01% of all U.S. GHG emissions.[23] Despite this, efforts to limit WAGs should be made as the quantity used increases globally each year.

Challenge: Consider WAG capture and recycling, although its availability is limited at this time.[24]

Action 9: Limit Meat, Fish, and Dairy Consumption by Staff and Patients

This could be considered among the easiest, and yet likely the most contentious, ways to reduce GHG emissions. Dairy products and all meats (including fish) account for approximately 15% to 19% of global annual emissions when all parts of production, including land use

change, distribution, and waste, are accounted for.[25] Approximately 23% of all available fresh water and 77% of arable land are used to produce meat and dairy products; this land usage accounts for more than 40% of all recent deforestation.[25] Much of the biodiversity loss (Living Planet Index reduction of 69% since 1970) is due to habitat loss from land use conversion to agriculture.

Dogs within the United States consume 18% (1.7 billion animals annually) and cats consume 2% of the country's entire annual livestock meat production; the remainder is consumed by humans.[26] There are a multitude of health considerations of intensive animal farming, including bacterial foodborne illness, emerging diseases, and antimicrobial resistance. Transitioning to a more plant-based, nutritionally balanced diet will massively reduce humans' and companion animals' ecological impact. Another way to reduce the impact of pet food is to promote dry food, as on average it has a 7-fold less carbon footprint than canned.[27]

Challenge: Offer vegan and vegetarian options at staff gatherings. Consider providing and promoting nutritionist-approved, reduced-meat, balanced, insect- or plant-based pet food diets to patients.

Action 10: Travel Sustainably

The transport sector accounts for 29% of U.S. GHG emissions, with light-duty vehicles responsible for 58%, which encompasses staff commute and client travel.[28] There are many ways to reduce this impact, including carpooling, ditching diesel, combining errands and short trips, regular vehicle maintenance, keeping tyres appropriately inflated, switching to an electric vehicle, walking, cycling, or taking public transport.

For clients, providing patient service through the least number of visits or utilizing some level of telemedicine when appropriate can be considered. Telehealth is used extensively in human health care, providing substantial reduction in GHG emissions, and there are opportunities for expansion in veterinary medicine, pending state regulations.[29]

Air travel is particularly egregious and accounts for 8% of the U.S. transport sector's GHG emissions annually, almost doubling to 15% when the effect of radiative forcing is included, due to the emissions being deposited high in the atmosphere.[30,31] Consider not flying or flying short distances less than 1 to 3 hours. Where and when possible, take the train and attend conferences virtually. Also try to avoid deliveries by air, particularly heavy items. V

Challenge: Calculate the travel carbon footprint of the clinic staff annually. Find incentives to provide the necessary motivation to reduce travel emissions.

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The intersection of Interprofessional Education and One Health: A qualitative study in human and veterinary medical institutions

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ABSTRACT

Interprofessional Education (IPE) and One Health are two common and overlapping frameworks for teaching collaborative practice. IPE is common at human medical institutions, while One Health is more common in graduate and veterinary programs. The connection between IPE and One Health is still being explored both in scholarship and in real-world professional settings. This prospective, qualitative research study examines the intersection of IPE and One Health at institutions that are members of the *Clinical and Translational Science Award (CTSA) One Health Alliance (COHA)*. COHA consists of veterinary schools partnered with medical institutions through the National Institutes of Health CTSA funding mechanism with the specific goal of advancing the understanding of diseases shared by humans and animals.

Twenty-four interviews were conducted with professionals across eight professions. Subjects noted that some of the biggest barriers to IPE education were awareness, accessibility, efficacy, and implementation beyond the classroom. Competency across multiple institutions and a consistent, validated evaluation tool were noted to be lacking. Interviews highlighted a lack of a shared mental model for IPE and One Health across the medical professions, major hurdles for implementation in professional curricula, and a disconnection between bridging IPE and One Health to the workforce and global challenges. Future work in this area may be focused on assessing the IPE and One Health offerings beyond COHA institutions, giving a more holistic understanding of how IPE and One Health are being deployed. One Health can be operationalized through the adoption of IPE principles and practices into the curriculum. This research is critical to educate others on current applications, roles, and definitions of One Health and IPE. The ultimate goal of this work is to help cultivate transdisciplinary leaders in human and animal medicine who will have the skills to solve systemic problems.

1. Introduction

Interprofessional Education (IPE) and One Health are two common and overlapping frameworks for teaching collaborative practice. These concepts describe frameworks in which multiple health workers from Interprofessional Education (IPE) and One Health are two common different professional backgrounds who work together to deliver the highest quality of care across settings [20]. IPE is defined as "occasions where learners of two or more professions learn with, from, and about each other to improve collaboration and the quality of care and services" [10]. As outlined by the Interprofessional Education Collaborative (IPEC), interprofessional collaborative practice focuses on four core competency domains (Table 1). The updated 2023 version references One Health within the "Values and Ethics" sub-competency domain. The adoption of these core competencies into accreditation criteria in the United States has increased IPE support at many institutions [15].

One Health has been less ubiquitous than IPE in medical education but is becoming more common in graduate and veterinary programs. One Health competency has been proposed, that focuses on developing professionals with an understanding of global and local health [17]. The most recent set of competencies builds upon this definition: "One Health is an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals and ecosystems. The approach mobilizes multiple sectors, disciplines and communities…to foster well-being and tackle threats to health and ecosystems…" [12]. These competencies are listed in Table 1[8].

The connection between IPE and One Health has been explored for nearly a decade. When surveyed, medical and veterinary students were unaware of factors that impact health outside of their own discipline [13]. Another study found that in the context of global challenges, an understanding of One Health competencies is critical for MD and DVM students [14]. When veterinary students participated

in IPE experiences with other health professional students, there was a demonstrated professional development benefit of interprofessional teams [5]. An article by Kahn et al. (2008) called for "schools of medicine, veterinary medicine, and public health" to "embrace the 'One Health' concept …to meet the challenges of the future" [22].

The application of resources to IPE and One Health curricula in human and veterinary medicine varies. One Health programs are common in veterinary medical schools, but these are rarely linked to IPE. In a survey of veterinary schools, 51% percent of programs had IPE offerings within the curricula [6]. In contrast, the vast majority of medical schools have an IPE program, although it is often human health interprofessional programming (doctors, nurses, pharmacy, technicians) as opposed to IPE outside of the discipline of human medicine.

A recent report from the American Association of Medical Colleges notes that nearly 97% of responding colleges required IPE programming [1]. Roadblocks for the incorporation of One Health into medical curricula were the lack of One Health understanding and a full curriculum [4].

The SARS-CoV-2 pandemic is a key example of synergy between IPE and One Health. From its likely origin in an open-air food market and transmission of disease from animals and humans, SARS-CoV2 provides a powerful illustration of the interconnectedness between humans, animals, and the environment. The SARS-CoV2 response required collaboration across multiple professions, including veterinary medicine, public health, and human medicine. There are other complex problems such as antimicrobial resistance, impacts of climate change on health, and food insecurity, which will also benefit from the breakdown of disciplinary silos and collaboration across professions [19].

This qualitative research study examines the intersection of IPE and One Health at institutions that are members of the Clinical and Translational Science Award (CTSA) One Health Alliance (COHA). COHA consists of veterinary schools partnered with medical institutions through the National Institutes of Health CTSA funding mechanism with the specific goal of advancing the understanding of diseases shared by humans and animals[2]. This study focused on veterinary and medical schools within the same institution to better understand the different IPE offerings in human medical and veterinary medical programs. It should be noted that these institutions likely have increased awareness of IPE and One Health because of their association with COHA.

2. Methods

We received funding from a COHA Pilot grant to conduct this work. The protocol was approved by the Colorado State University (CSU) Institutional Review Board (Protocol 3430). Participants were recruited from six COHA institutions: Colorado State University, University of Colorado, University of Florida, University of Minnesota, University of Pennsylvania, and University of Wisconsin-Madison. Participants were required to have worked in, conducted research with, or taught coursework on IPE or One Health. Video conference open-ended semistructured interviews were performed, allowing for flexibility in the interactions with participants [18]. No academic or financial compensation was given to participants.

The semi-structured interview questions were developed within the primary research team and then refined using input from the working group. The interview questions were piloted in two interviews, with minor revisions for grammar and organization. The questions were divided into two major areas: experience with IPE and logistics of IPE delivery (Supplementary Materials). Experience with IPE focused on the participant's role, how they defined IPE, and how they interacted with IPE. Logistics focused on access, evaluation, and scheduling programming. One Health was specifically integrated into two questions.

Table 1

Comparison of IPE and One Health Competency.

Interprofessional Education competencies	One Health educational competency
Values and ethics VE1. Promote the values and interests of persons, and populations in health care delivery, One Health, and population health initiatives.	Skills: • Effective communication • Collaborative and resilient working • Systems understanding
Roles and Responsibilities Communication Teams and teamwork	Values and attitudes • Transdisciplinarity • Social, cultural, and gender equity and inclusiveness • Collective learning and reflective practice Knowledge and Awareness • One Health concepts • Theoretical and methodological pluralism • Harnessing uncertainty, paradox, and limited knowledge
Source: IPEC, 2023	Source: Laing et al., 2023 [8]

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3. Data analysis

Four researchers participated as interviewers and as coders. One was a research scientist working in team science, one was a postdoctoral fellow, one was a medical student, and one was a veterinary student. Interviews were conducted virtually via Microsoft Teams or Zoom, and then transcribed for coding. Transcripts were analyzed using the constant comparison method [16]. First, researchers read all transcripts separately and open-coded using Microsoft Excel to develop initial themes. Then, working together via virtual meetings, researchers employed axial coding to identify the sub-themes of each theme to construct a hierarchical structure. To establish coding validity, manual intercoder reliability was performed. Four interviews (25%) were initially double-coded, with coders working independently without conferral. Cohen's kappa was calculated retrospectively at 0.603, showing good agreement [11]. SAS v9.4 (SAS Institute Inc., Cary, NC) was used for all statistical analyses.

4. Results

Twenty-four participants completed interviews between May 2022 and August 2022. The de-identified participants are listed in Table 2. Representative quotes organized by research question and theme are presented in Table 3. The coded themes are described below.

41. How do you define IPE?

In more than 75% (17/24) of interviews, the participants could not reproduce a full definition of IPE at the institutional level. The most common components of definitions were.

- Two or more professions
- Working in the same healthcare space.

Many participants emphasized the importance of outcome in any shared definition and working towards tangible solutions to real problems. When asked for a personal definition of IPE outside of their institutional definition, participants were able to easily produce multiple examples. Several participants (21%, 5/24) mentioned the wish for a bigger definition, incorporating "cultural humility" and "healthy equity".

4.2 What are the challenges in IPE delivery?

4.2.1 Lack of IPE integration within multiple curricula Allocated time within the curriculum was expressed as a challenge in 54% of interviews (13/24). Participants expressed a belief that IPE should not be an "add-on" but instead a systematic integration. Relegating the IPE curriculum to evenings or weekends would not respect the limits of health professional students, who are routinely "deluged by information." Curriculum review, both at the institutional and national level, has caused a "density and tightness" to a curriculum that would not allow for easy addition of IPE concepts. In addition, IPE offerings were described as "one-off" or "du jour," with offerings changing year- to-year or based on faculty interest. Two institutions lauded the value of having a historical agreement for IPE involvement (e.g. "these days, these times, this place").

Table 2

List of interview participants by institution and professional degree(s).

Institution	Professional/Terminal degree
Colorado State University	DVM DVM DVM DVM, Ph.D. Ph.D.
University of Colorado Medical School, Colorado State University Campus (CUSOM at CSU)	MD MD MD MD
University of Florida	Ph.D. DVM DVM
University of Minnesota	MD DVM, Ph.D. DNP DNP MD DVM
University of Pennsylvania	VMD, Ph.D. MD Ph.D., MPH Ph.D., MSW Ph.D., MSW
University of Wisconsin	DVM DVM MSW PT, Ph.D. DVM BScN, MScN, PhD

Table 3

Representative quotes from participants organized by research question and theme

Research question	Themes	Representative quotes
How is IPE defined and structured at institutions that prioritize both IPE and One Health?	Inconsistency in institutional definition	"Professional is an all-encompassing term that includes individuals with the knowledge and/or skills to contribute to the physical, mental, and social well-being of a community" "So we say health 'professionals' instead of 'students' but otherwise we use the World Health definition. So, 'when members of two or more health professions learn with, from, and about each other to improve health outcomes.' And that's very important to us that we really emphasize the outcomes piece."
	Personal definitions	"Professional is anyone who contributes one way or another to any aspect of the quintuple aim. And based on that definition, incorporating more students from law, engineering, anyone who could be a part of the broader health team."
	Lack of IPE integration within multiple curriculums	"The main challenge is how IPE could be systematically integrated into a curriculum that would not be seen as an add-on." "It's after hours, so it's like from 5:00 to 7:00 PM on a Monday and, you know, we already with those three or four classes have, um, group sizes that are over 400 students large…. And the students don't love it because, well, it's late on a Monday after they've already had stuff, but the curriculums are so tight that getting them integrated is difficult."
	Lack of buy-in from administration and colleagues	"I have to confess that it is people who want to do it and it tends to be the same group of us."
	Difficult transition from preclinical to clinical space	"To do so in a team-based learning, there are space constraints…space constraints, constraints in terms of preceptors, who can you know preset multiple types of learners or supervise multiple types of learners." "I think this gap is hard from academia to the clinical setting. And then the clinicwide buy-in. I think once you get it, learners will do anything right because they want to pass and graduate. So it's easier to do IPE in school. But how do you, how do you get buy-in, in, in the clinical practice setting…"
What is the potential impact of IPE and One Health training and how can it be evaluated?	Evaluation strategies	"So how do you in some way evaluate that this whole team collaborating for this patient is improving their care and how do you directly know that it's the IPE team and not all the other things that they may have going on in their life or all the other wrap-around services that they may have elsewhere. So, how do you directly measure it?" "… One of them is accreditation standards, right? And I think, I think this could be a blessing, like if we can figure out how the accreditation standards line up because everybody's demanding stuff around this…"
	IPE as a tool for the modern clinician	"IPE is the invitation to grow from, and about each other… We call it, at my clinic, a dance and it's something we do together in a partnership that models flexibility, adaptability, and resourcefulness as we build relationships with each other." "We are ethically responsible for providing all the resources and training, for all students, not just those that want it. There is good evidence that being a member of a cohesive and high-performing team reduces the risk of burnout and job turnover." "I'd say it's essential for their success as future professionals… I think it's essential because healthcare now is so complex. And it really has become a team endeavour…But all professions are recognizing they don't interact with patients or clients in isolation"
	Solving global problems	"I really do think this is how problems are solved." "One of the biggest benefits of this IPE is, "I don't know the answer to this, but this person probably does so."
What is the overlap between IPE and One Health in curricula at these institutions, both inside and outside of the clinical setting?		"One Health is a branch of IPE, when two or more professions come together with the shared goal of One Health in an IPE framework:. It was also described as "a device in which to frame IPE problems" "We have yet to encounter a physician who knows what One Health is because they just don't get trained in it.". "I see a lot of colleagues struggle with putting together big research programs or project teams. And it stems from them never having done it before. They do not know how to embark on meeting people outside the silo. I think IPE and One Health can change that." "That we all work through problems the same, same way and that we all have the same foundation to our education and to our, our goals like they're all foundationally the same and so, like that's, that's the intersection that I see that is, that's best."

4.2.2 *Lack of buy-in from administration and colleagues*

Promotion and tenure committees were noted to not equally weigh IPE activities during consideration for tenure by four participants (17%). Also referenced was a hierarchy of health professions with veterinary medicine, nursing, pharmacy, and social work holding less influence on the IPE curriculum at their institution. Medical school faculty and administrators were perceived to have more influence over the IPE curriculum and its delivery than others. Finally, it was noted that at many institutions it was generally the same group of people ("the people who want to do it") that engaged with the IPE curriculum.

4.2.3 The difficult transition from preclinical to clinical space

Six interviewees (25%) mentioned that the transition from teaching IPE in the classroom to implementing collaborative practice in the clinical setting is difficult. A lack of adequate clinical space was mentioned as a barrier. Participants explained that classrooms allowed for large gatherings of multiple professions, but clinics are sometimes unable to accommodate that many visitors. It was also noted that not all clinical mentors can model collaborative care. As one participant said, "Not all of our practising clinicians understand IPE enough to cultivate an experience for students in other disciplines."

4.3 How do you integrate competencies and evaluate IPE?

Respondents referenced the IPEC core competencies and stated they were generally "spot-on" and easily incorporated. Two participants pointed out that the national development and implementation of Competency-Based Veterinary Education mirrors Competency-Based Medical Education and that these shared competencies allow for shared objective structured clinical examinations (OSCEs), debriefs, case communications, and coursework. Student feedback was elicited at some point in all programs. Some participants noted that assessment came through formal surveys (5/24, 21%) and others reported that assessment came through student anecdotal stories and reflections (3/ 24, 13%). Long-term follow-up (five years and beyond) was not integrated into any program.

4.4 What is the potential of IPE?

Collaborative interactions were mentioned in 25% (6/24) of interviews as a tool to overcome imposter feelings or professional perfectionism. References were made about how crucial IPE is outside of the profession in social lives and communities because the skills apply to many situations. A changing healthcare landscape was also highlighted, with a diverse and ageing population with increasing affliction from chronic disease and a need for psychosocial support.

More than 50% of participants (14/24) described an aspiration to scale IPE beyond the individual patient. Areas of emphasis in which IPE was noted to be relevant included zoonotic disease, food safety, the opioid crisis, homelessness, antibiotic resistance, and climate change.

4.5 How do IPE and One Health intersect?

All included institutions had One Health programming, either curricular or extracurricular. Some participants (9/24, 38%) noted that IPE activities have been historically limited to those focused on patient care, with a tension between IPE for patient care and IPE for population health. Vital aspects of IPE were described as public health and veterinary medicine. Multiple interviews (8/24, 33%) described a desire for a connection between IPE and One Health in curriculum and real-world problem-solving. SARS-CoV-2 was referenced seven times as an issue that brings together physicians and veterinarians, reinvigorating IPE and One Health connections that were not robust pre-pandemic.

The interviews established differences in the prioritization of One Health versus IPE between human health professionals and veterinary health professionals. Human health professionals were more likely to gravitate towards IPE, whereas veterinary health professionals gravitated towards One Health. All medical students and veterinary students at the surveyed institutions had access to IPE curricula, however, this was not always via the curricula. All veterinary students had access to One Health curricula. Only 60% of medical students had access to One Health experiences. In three interviews, participants described the experience of veterinary students in IPE experiences as forced because the activities were not originally designed for veterinary student participation. One Health resonated more than IPE as a term with veterinarians.

5. Discussion

This study examined the intersection between IPE and One Health through qualitative interviews with veterinary medicine and human health educators. Findings suggest the following concepts: lack of a shared mental model for IPE and One Health across the medical professions, major hurdles for implementation in professional curricula, and disconnection between bridging IPE and One Health to the workforce and global challenges.

5.1 Shared mental model for IPE and One Health

IPE has the potential to provide a pedagogical platform for One Health education [3]. IPE provides the tools for diverse professionals to collaborate and problem-solve. The One Health initiative, with its focus on interprofessional collaboration, shares many similar themes with IPE and is widely utilized in veterinary medical education. One of the challenges of IPE is understanding the role of the veterinarian in the broader healthcare team. Members of the veterinary profession must recognize the larger role they could play, and advocate for their specialized training and skillsets. For example, veterinarians have significant experience with austere care, the human-animal bond, infectious disease recognition, antibiotic resistance, and a wide variety of medical communication scenarios. When participating in IPE, veterinary students may need to acknowledge and share their unique expertise with other team members. Similarly, IPE affords veterinary students the opportunity to expand their knowledge about other professions. The understanding that different viewpoints improve solving complex problems is further enhanced and operationalized with shared awareness of the skill sets possessed by professionals in other fields. The recent inclusion of One Health in the IPEC revised competencies is an important step for developing this shared mental model for IPE and One Health [23].

5.2 Major hurdles for implementation in professional curricula

One Health and IPE competencies cover very broad areas, including teamwork, collaboration, ethics, and problem-solving. This is beneficial in allowing flexibility in developing individual priorities and programs that can involve any number of professional programs that exist at a particular institution. However, a lack of specificity can inhibit recognition of shared purpose, alignment, and collaboration between groups and the accelerated progress that shared efforts promote. The end result is a hodgepodge of IPE and One Health curricular programming with little cohesiveness between the two. These interviews reveal that IPE offerings are robust at the institutions surveyed. Although not the focal point for this research, participants consistently described multiple endeavours to bring IPE and One Health to their students, through courses, curricular activities, and extracurricular experiences. Many barriers to the delivery of IPE were also discussed. Some of the biggest barriers were awareness,

accessibility, efficacy, and implementation beyond the classroom. Competency across multiple institutions and a consistent, validated evaluation tool were noted to be lacking.

5.3 Connecting IPE and One Health to the workforce and global challenges

The connection between IPE and One Health is still being explored both in scholarship and in real-world professional settings. This study described and compared IPE and One Health curricula at six institutions with documented commitment to both IPE and One Health. Challenges to implementing IPE and One Health curricula were identified even within this group. Further challenges exist in defining and proving the benefit of IPE and One Health with specific, impactful examples and career opportunities. Experience and awareness are growing, fueled by events during the recent pandemic (e.g. emergency orders allowing veterinarians to administer human vaccinations, veterinary diagnostic laboratories processing human COVID-19 diagnostic tests) and the global impacts of climate change and pollution (e.g. increased spread of infectious diseases, animals and plants as sentinels of toxic exposures) [7,9,21]. Understanding of expertise and established collaborations and trusted relationships between varied professionals and the public resulting from these experiences will help increase the impact and reach of IPE and One Health.

5.4 Limitations

This study has several limitations. First, only COHA institutions participating in an IPE-specific grant were included. For medical, veterinary, and other health professions nationwide, the commitment to IPE and One Health is suspected to be lower. Snowball recruitment can be biased in selection, and not all members of a group have an equal chance of selection. There is an increased risk of error with this sampling strategy. Some of the authors were included as participants in this study, although they did not have a primary role in data analysis (see conflict of interest). Additionally, semi-structured interviewing techniques allow for comparable, reliable data with the possibility of follow-up questions, but the flexibility may impact validity and have a high risk of bias if there are any leading questions.

5.5 Future research

Future work in this area may be focused on assessing the IPE and One Health offerings beyond COHA institutions. Such investigations may give a more holistic understanding of how IPE and One Health topics are being deployed. One Health can be operationalized through the adoption of IPE principles and practices into the curriculum. This has largely been theoretical and limited to single programs, but IPE may be leveraged as a platform to deliver One Health education.

Clarifying the perceptions of the value and application of IPE and One Health within different disciplines could be helpful. The researchers suspect that these perceptions in IPE and One Health will overlap despite some differences based on individual professional priorities and outcomes. Recognition of the value of inclusive perspectives is important in creating sustainable, supported efforts. For instance, veterinarians may consider the One Health terminology critical because of their embedded recognition. The settings of the application of IPE and One Health may also vary between disciplines.

Clinical accreditation outcomes may be most concerned with clinical interactions, whereas public health programs may be more focused on population-level decision-making. Determining and assessing differences in perspectives among disciplines and finding ways to collaborate may help promote IPE and One Health. It may also be critical to assess learning in the One Health and IPE space. Developing these assessments and evaluating programs will also be critical to the importance of IPE and One Health in curriculum and learning.

This research is critical to educate others on current applications, roles, and definitions of One Health and IPE. The ultimate goal of this work is to help cultivate transdisciplinary leaders in human and animal medicine who will have the skills to solve systemic problems.

Supplementary data

Supplementary data to this article can be found online at: https://doi. org/10.1016/j.onehlt.2024.100767.

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Food Safety and Chemical Residue Monitoring in South Africa

By Azel Swemmer, Technical Director, Food and Drug Assurance Laboratories (Pty) Ltd

Chemical residues in food—resulting from the use of veterinary pharmaceuticals, agricultural pesticides, feed additives, and environmental contaminants—pose a significant risk to public health and food safety.

These substances may persist in edible tissues, milk, eggs, and other animal-derived products if proper withdrawal periods and good agricultural practices are not adhered to.

As in many jurisdictions, the regulation and surveillance of chemical residues in South Africa are essential for ensuring consumer protection, maintaining export market access, and fostering confidence in the national food supply chain. Robust analytical monitoring, guided by both domestic legislation and international frameworks such as Codex Alimentarius, is necessary to confirm compliance with established Maximum Residue Limits (MRLs) and to minimize the risks associated with chronic dietary exposure.

Chemical residues refer to trace amounts of substances that remain in food products following the application of pesticides, administration of veterinary medicines, or exposure to environmental and industrial pollutants. These residues can enter the food chain during primary production, animal husbandry, feed management, or through post-harvest contamination during processing, storage, or transport. If not properly managed, such residues may accumulate and pose toxicological risks, particularly with repeated or long-term exposure.

An effective chemical residue monitoring program must be grounded in comprehensive risk assessment. It should consider a wide spectrum of potential contaminants, including veterinary drugs used during animal production, pesticides applied to feed crops, fungicides used to suppress mycotoxins, and the mycotoxins themselves. In addition, residues of heavy metals in animal diets and persistent environmental contaminants—such as DDT (dichloro-diphenyl-trichloroethane) and PCBs (Polychlorinated Biphenyl compounds)—must be considered, particularly in regions where such substances may still be present.

A scientifically sound monitoring strategy must therefore extend beyond commonly used inputs to reflect the full range of potential hazards in the production environment.

Regulatory Framework in South Africa

South Africa operates under a multi-agency food safety regulatory system:

- The Department of Agriculture, Land Reform and Rural Development (DALRRD) is responsible for regulating food of animal origin, including meat, milk, and eggs.
- The Department of Health, through the Foodstuffs, Cosmetics and Disinfectants Act (Act 54 of 1972), sets limits for chemical contaminants in food products.
- The Department of Trade, Industry and Competition (DTIC), along with the National Regulator for Compulsory Specifications (NRCS), plays a role in establishing and enforcing national food safety standards.

A key regulatory mechanism in managing chemical residues is the Maximum Residue Limit (MRL) framework. MRLs specify the highest permissible concentration of a chemical residue in food, based on risk assessments conducted by international bodies such as the Codex Alimentarius Commission. In cases where local residue data is lacking, South Africa adopts Codex MRLs. These values are legally enforced under the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act (Act 36 of 1947). Where no MRL is specified for a particular compound or animal species, a default limit of 0.010 mg/kg is applied.

All registered veterinary medicinal products are required to include a package insert that specifies the legally mandated withdrawal period before slaughter or harvesting. In the case of compounded products, the onus lies with the veterinarian to retain supporting documentation indicating the appropriate withdrawal period. V-Tech has been a leader in conducting residue monitoring to support withdrawal times in food-producing animals and the veterinarians prescribing these medications. However, residues resulting from off-label drug use, easily accessible stock remedies, pesticides, and poor compliance practices—especially in informal or small-scale farming operations—continue to present regulatory challenges.

Analytical testing for veterinary drug residues involves two main categories: screening and confirmatory methods. Screening techniques are valuable in routine monitoring, particularly for detecting known substances or high-risk drug classes. However, they often lack the specificity required for definitive identification and regulatory enforcement.

Confirmatory techniques—especially Liquid Chromatography–Tandem Mass Spectrometry (LC-MS/MS) and Gas Chromatography–Tandem Mass Spectrometry (GC-MS/MS)—are recognized globally as the gold standard for residue analysis in biological matrices. These methods provide superior sensitivity and selectivity, enabling the precise identification and quantification of a broad range of compounds. Modern residue laboratories can screen for over 140 individual drugs in a single analytical run, significantly improving the efficiency and scope of monitoring programs.

The reliability of analytical results depends on the laboratory's adherence to internationally accepted quality standards. ISO/IEC 17025 accreditation serves as a benchmark of technical competence and quality assurance. Accredited laboratories are required to validate their methods, calibrate instruments, ensure staff competency, and maintain robust data integrity systems. For laboratories involved in food safety, environmental testing, or pharmaceutical analysis, ISO 17025 accreditation enhances credibility, facilitates regulatory acceptance, and supports international trade by demonstrating compliance with globally recognized standards.

As both an importer and exporter of food products, South Africa must comply with international residue regulations to maintain access to global markets. Countries such as the European Union, United Arab Emirates, and China impose strict residue control requirements. Exporters must adhere to the specific residue monitoring programs of the importing country, which may include substances not routinely monitored in South Africa and emerging contaminants such as PFAS (per- and polyfluoroalkyl substances).

In recent years, the private sector—including independent laboratories and major retail chains—has become increasingly involved in food safety initiatives. Retailers often implement their own residue testing programs to protect brand integrity, comply with internal risk protocols, and satisfy consumer expectations. These programs typically include farm-level traceability, regular audits, comprehensive residue screening, and data-driven supplier oversight.

Food safety, particularly regarding chemical residues, is a shared responsibility that requires coordinated action across regulatory bodies, industry stakeholders, laboratories, and producers. While South Africa has a robust regulatory framework, continuous improvement in risk-based monitoring, laboratory capacity, and enforcement is vital to address evolving challenges. By fostering collaboration and maintaining scientific and regulatory excellence, South Africa can safeguard public health and sustain its role in the global food trade.

SAVA AWARDS

2023 AWARDS

South African Veterinary Association
Suid-Afrikaanse Veterinêre Vereniging

SAVA CITATION 2023

The SAVA may bestow a citation upon one or more persons, including non-veterinarians, in recognition of specific achievements and/or meritorious contributions to the veterinary profession or the SAVA. More than one citation may be bestowed per year.

DR ROSEMARY PETER

Since graduating BVSc in 1982 at the Onderstepoort Veterinary Faculty, Dr Rosemary Peter has distinguished herself as a prominent parasitologist, with special expertise in the assessment of ectoparasiticides. She has been employed in various capacities by small, medium and large international veterinary pharmaceutical companies and has been an advisor to many Sub-Saharan countries and elsewhere. The high regard in which she is held is demonstrated by the large number of international collaborations in which she has been involved and the research funding that she has helped to establish. This research was done even though she was not employed primarily as a researcher but rather as a product developer.

Rose has contributed to both local and international conferences. She has been appointed by the Agricultural and Veterinary Chemical Association of South Africa as a representative of the Pharmaceutical Industry on the Veterinary Products Policy Committee of the Medicines Control Council.

Internationally, her standing is confirmed by her inclusion in a worldwide panel of 7-9 experts who produced the authoritative series of guidelines for assessing the efficacy of products used to control the ectoparasites of animals, mainly ruminants. These 5 Guidelines, issued under the authority of the World Association for the Advancement of Veterinary Parasitology (WAAVP), cover ticks, fleas, flies (nuisance and myiasis), mites and lice. Her international standing is further demonstrated by Dr Peter being on the editorial review board of the highly rated journal, Parasitology, and being invited to present a Plenary paper at the WAAVP Congress in 2005.

Dr Peter has served a term as President of the Parasitological Association of South Africa and contributes to the MCC as Chair of the Antibiotic Resistance Working Group, as well as being appointed Extraordinary Lecturer at the Faculty of Veterinary Science, Onderstepoort.

For her consistent and meritorious contributions to the veterinary profession in her fields of expertise, Dr Rosemary Peter is a deserving recipient of a SAVA Citation for 2023.

SAVA CITATION 2023

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DR MORNé DE LA REY

After graduating BVSc in 1994, Dr Morne' de la Rey joined his father Ronnie as an embryo transfer expert in the firm Embryo Plus and then became CEO in 1998 and has subsequently been recognized internationally for his expertise in the field of assisted reproduction in domestic ruminants and wildlife.

Morné has consistently pushed the boundaries of his field of expertise and his entrepreneurial role is shown by the number of firsts worldwide or in Africa: embryo sexing, embryo splitting, embryo foal, cloned calf, Sable antelope embryo calf, African buffalo calf by embryo transfer, In Vitro Fertilisation, morulas from White Rhinos, harvesting the genetics of the last Northern White Rhino bull before euthanasia.

He has played many prominent roles in the International Embryo Technology Society and the South African Veterinary Semen and Embryo Group and is authorised in Canada to export bovine embryos. Additionally, he was elected as patron and advisor to the East African Embryo Transfer Association and elected Conservation Fellow of the San Diego Zoo International. His services to 15 countries outside South Africa include all continents except Australia.

Over 200 veterinarians from 19 countries have benefitted from his training courses on semen, Artificial Insemination, embryos, in vitro fertilization and related skills. As appointed Extraordinary Professor at the Faculty of Veterinary Science, he assists with teaching in Production Animals and Wildlife and is frequently in demand as a speaker at conferences both nationally and internationally, as well as appearing on many television programs relating to his work and expertise, both locally and elsewhere.

Based on his ground-breaking and sustained meritorious contributions to Veterinary Science and the profession, Dr Morné de la Rey is a fitting and deserving recipient of a SAVA Citation in 2023.

Dr Tom Spencer receiving the SAVA citation on behalf of Dr de la Rey together with Dr Ziyanda Majokweni and Prof Gareth Bath

BOSWELL AWARD 2023

Awarded to any member of the SAVA for eminent service rendered to the profession through the SAVA. The award may be bestowed upon more than one person in a particular year.

DR DAVID GERBER

Dr David Gerber became a member of the South African Veterinary Association (SAVA) in 2000, since which time he has served the

Dr Gerber with Prof Bath and Dr Ziyanda Majokweni

Association and profession consistently and with distinction in many capacities, and as an active member of several SAVA Groups has made many contributions that have benefitted these organisations.

These include interactions and negotiations with many authorities in South Africa like SAHPRA, MCC, WRSA, SAVC and DALRRD, that have led to satisfactory outcomes and can be ascribed to Dr Gerber's unique blend of negotiating skills and his knowledge and appreciation of all the aspects of a given issue requiring resolution.

His drive, energy and enthusiasm in assisting the SAVA and its branches resulted in him being co-opted as a Member of the Board of Directors of the SAVA in 2017, where he has continued to make valuable contributions to the profession.

Of particular note has been his involvement in the SAVA team that in the Constitutional Court successfully challenged a Parliamentary Law of the Department of Health that would have prevented

AWARDS CONTINUE »

veterinarians from dispensing drugs, since the profession was not consulted and did not fall under the jurisdiction of the Department of Health.

During the Covid-19 Pandemic, he was part of the team that successfully lobbied for veterinarians being placed in the list of essential service providers, allowing them to continue rendering professional services. He also organized sponsorship of a public relations campaign to improve public perception of veterinary services.

Antimicrobial Resistance is a major concern worldwide, and Dr Gerber has played a key role in South Africa especially in the Poultry Industry in promoting responsible use of antibiotics through long-term surveillance and targeted compounded treatments.

As a highly regarded contributor to the veterinary profession through the SAVA and its Groups, Dr David Gerber is a very deserving recipient of the Boswell Award for 2023.

GOLD MEDAL 2023

Awarded to any person, in recognition of outstanding and sustained scientific achievement, with a major impact in the field of veterinary science in South Africa. The medal will only be awarded once to a particular person, and there will be one award per year. The award requires a very comprehensive curriculum vitae and motivation.

DR ROY BENGIS

Trophy sponsored by

Virbac

Dr Begis with Dr Ziyanda Mayokweni, Prof Gareth Bath and Dr Ginelle Viviers sponsor of the Virbac Trophy

Dr Roy Bengis qualified at the Onderstepoort Faculty in 1971 and proceeded to the USA where he obtained MSc and PhD degrees. On his return in 1978, he was appointed as state veterinarian in the Kruger National Park where he was stationed until retirement from government service in 2011. Roy dedicated his career to many aspects of wildlife research that have useful practical applications, and he has extensive knowledge of wildlife diseases and the chemical capture of wild animals. He has 106 scientific publications to his credit of which close to 50 are in refereed journals and he is the senior author of more than 20 of the latter. His scientific productivity is therefore very impressive. Some selected achievements include Dr Bengis showing that elephants were not infected with FMD when exposed to natural infection from infected cattle in adjacent pens. Elephants could therefore subsequently be translocated FMD-free to other parks and conservancies, thereby not only relieving their population pressure in the KNP but also facilitating their conservation. He developed standard operating procedures for the management and husbandry of captive juvenile elephants, and captive buffaloes and the humane euthanasia of wildlife during lethal population management exercises or for dealing with problem animals.

The survival of KNP genotype buffaloes was threatened by a significant outbreak of bovine TB (first diagnosed by Bengis) and two anthrax outbreaks. Dr Bengis co-designed a protocol to breed 'disease-free' buffalo calves from FMD- and theileriosis-infected parent stock and disease-free calves were translocated to other national parks and private wildlife ranches.

Dr Bengis' awards include the President's Award of the SAVA, the Sir Arnold Theiler Memorial Medal and the Gold Medal of the World Organisation for Animal Health (OIE). Roy Bengis has had a 49-year career as an internationally recognised, very eminent veterinary wildlife scientist and is a most worthy recipient of the SAVA Gold Medal for 2023.








SAVA Community Veterinary Clinics

An initiative of the SOUTH AFRICAN VETERINARY ASSOCIATION

Non-profit Company: 1998/016654/08
Non-profit Organisation: 000-234 NPO
Public Benefit Organisation: 130001321

One Health in Action: Building sustainable rabies prevention networks in the Eastern Cape

Dr Emelina Nizere, Epidemiologist for the SAVA-CVC Battersea Eastern Cape Rabies Project

Rabies is a fatal lyssavirus that affect mammals. It is a zoonotic disease that accounts for approximately 60 000 human mortalities globally with many of them occurring among children and young adults in Africa and Asia (WHO, 2018). It is important to note that while rabies is 100% fatal when clinical sign develop in humans and animals, vaccination of domesticated pets, pre-exposure prophylaxis (PrEP) and post exposure prophylaxis (PEP) in humans has allowed high-income countries to become free of dog mediated rabies deaths.

In lower income countries it remains a neglected tropical disease of importance with dog mediated rabies causing approximately 21 476 mortalities in Africa on an annual basis (WHO, 2018). Between 2020 and 2023, the confirmed animal rabies cases increased from 89 to 156 in South Africa (NICD, 2025). Notably, the Eastern Cape had a fivefold increase (from 13 to 62) in confirmed animal rabies cases during the same years (Figure 1) followed by a significant decline in 2024.

Confirmed human rabies cases peaked in 2021 (n=19) nationally with the Eastern Cape accounting for 47% (9/19) after reporting no cases in 2020. The peak was followed with a steady decline by two human rabies cases per year till 2024 (Figure 2). Animal rabies cases remained high despite the decline in human rabies cases from 2021-2024. In a twenty-year spatial-temporal epidemiological study of human and animal rabies cases in the Limpopo, Mpumalanga and the North West, Mogano, et al. (2022) also noted continued increases in dog rabies cases despite the decline in human ones. This may be associated with increased rabies prevention and control activities in response to human rabies cases. The Eastern Cape is a predominantly rural province with an unemployment rate of 39.3% in the first quarter of 2025, 6.4% higher than the national average (Statistics South Africa, 2025). Dog mediated rabies have been noted to be prevalent in rural communities with low socioeconomic status, limited access to healthcare that result in barriers to timely rabies prevention and control (Akinsulie, et al., 2024).

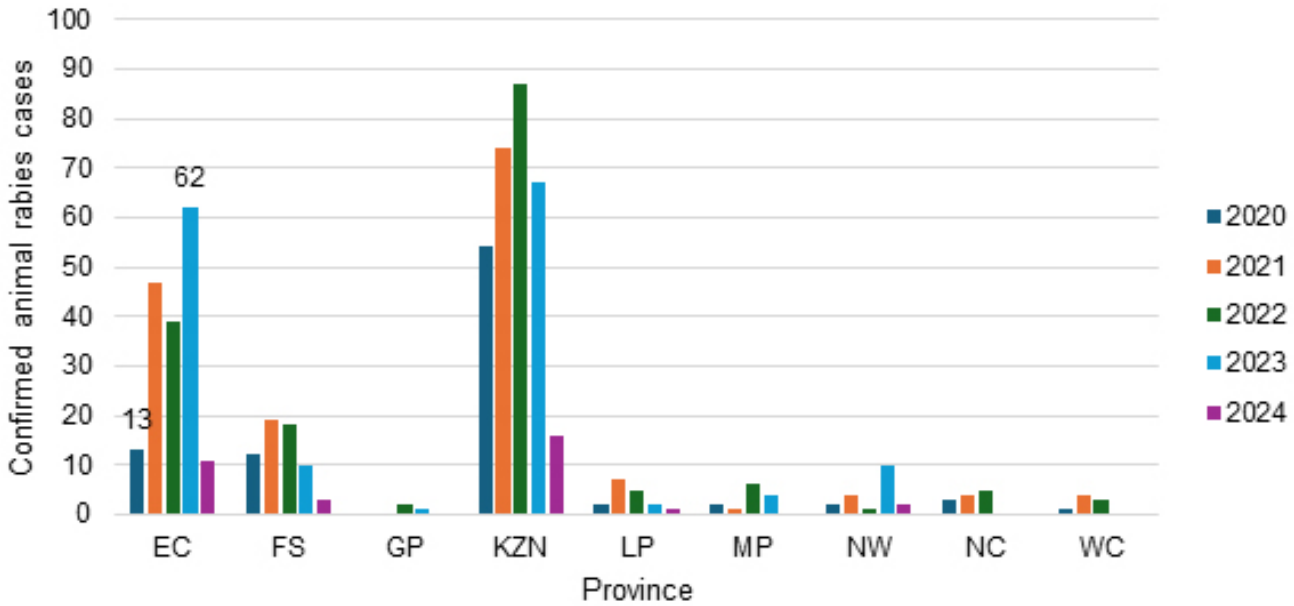

Figure 1: Five year trend of confirmed animal rabies by province, 2020-2024 (NICD, 2025)

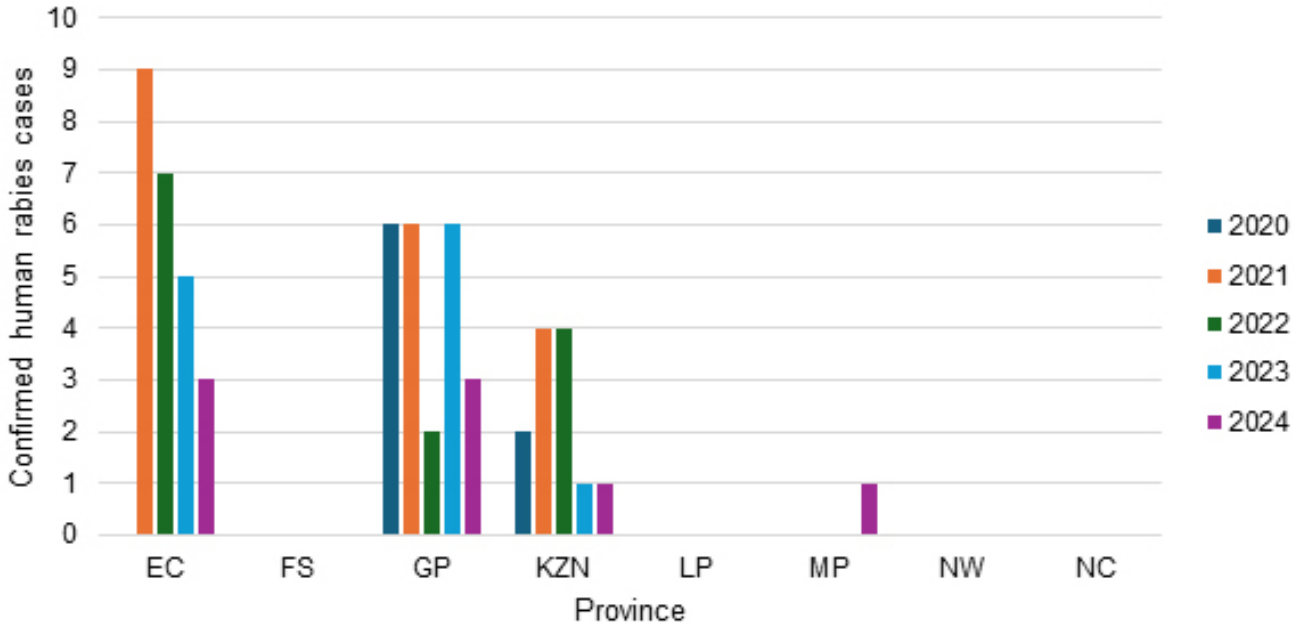

Figure 2: Five year trend of confirmed human rabies cases, 2020-2024 (NICD, 2025)

The South African Veterinary Association Community Veterinary Clinic's Rabies Vaccination Project aims to contribute to the elimination of dog mediated rabies by strengthening the One Health approach to its control and prevention (Figure 3).

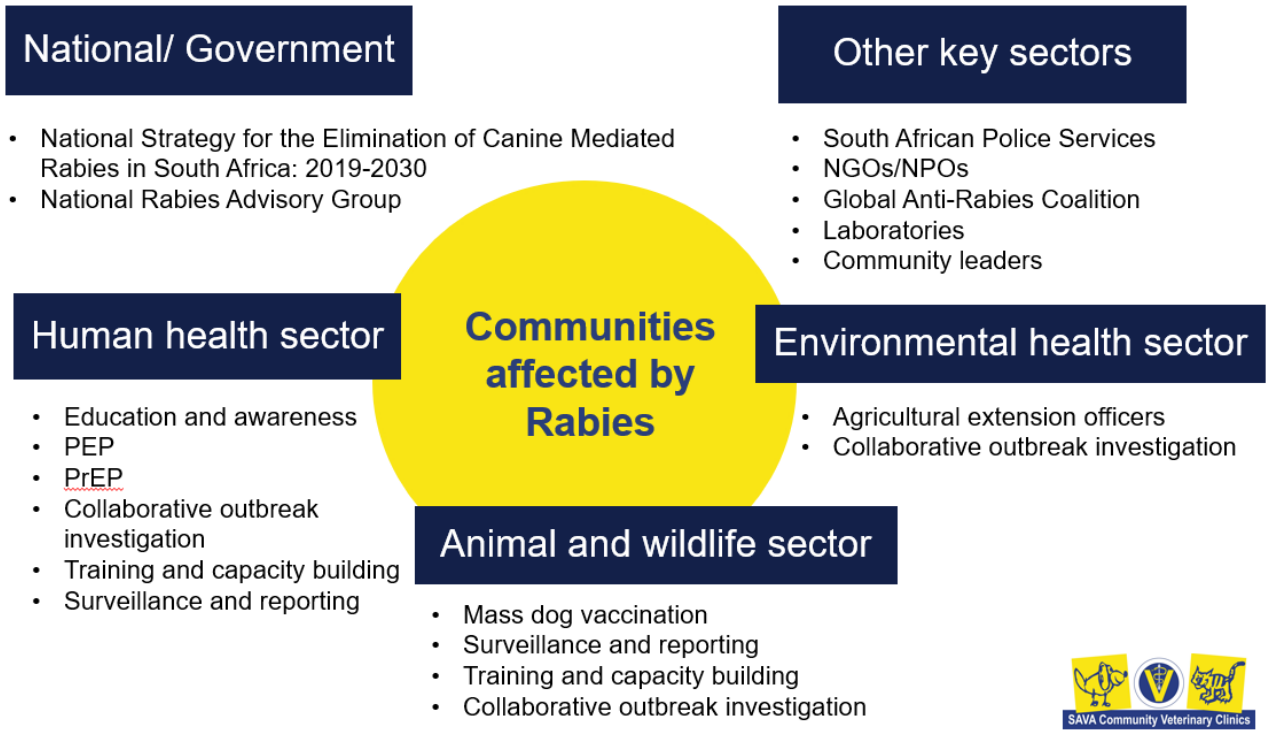

Figure 3: Rabies vaccination project One Health model

Informed by the Global Strategic Plan to end human deaths from dog mediated rabies by 2023 (WHO, 2018), the National Strategy of the Elimination of Canine Mediated Rabies in South Africa 2019-2030 (National Department of Agriculture, Land Reform and Rural Development and National Department of Health, 2024) and the guidance of multidisciplinary structures like the National Rabies Advisory Group we seek to build sustainable networks that support and protect communities in rabies endemic areas of the Eastern Cape. We have a community centred approach that invites role players from the human health, animal and wildlife, environmental and

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other relevant sectors to work together (Figure 3). Our team of AHTs provide door-to-door vaccination, education and awareness to communities affected by rabies in collaboration with local state veterinary structures, health officials, environmental health practitioners and agricultural extension officers. Our collaboration with state veterinary services means we strengthen their rabies surveillance activities by sharing the real time digital data we collect, encouraging community members to report suspect rabies cases to the relevant officials, supporting their outbreak investigations, and sharing the technical skills and knowledge with their officials. We have plans to strengthen the epidemiological capacity of compulsory community service veterinarians with a focus on outbreak investigation and improving surveillance practices.

We engage directly with the human health sector in the communities we serve. These engagements allow us to strengthen their knowledge and understanding of the role in rabies control. Our AHTs visit all health facilities in their areas to encourage officials to make use of existing rabies surveillance tools (like the animal bite registers and the notifiable medical surveillance system for suspect/confirmed human rabies cases), ensure clinicians are familiar with the indications for PrEP and PEP administration, and respond to relevant training needs as they arise. We also support human outbreak investigations with vaccination, education, and awareness in the affected communities.

We extend our education and awareness efforts to SAPs officials in the communities we service to ensure they understand their role in the management of rabid animals. We continue to seek opportunities for constructive collaboration with locally based NGOs/ NPOs as partners in addressing community needs that exacerbate rabies risk.

Our vision for the communities we serve is based on empowering them to identify rabies risk factors and actively seek out services from the relevant role players in the public and private sectors as required. For the various role players, we aim to cultivate a culture of knowledge sharing, data dissemination and the sustainable use of available resources. V

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South African Veterinary Association
Suid-Afrikaanse Veterinêre Vereniging

CALL FOR NOMINATIONS FOR SAVA AWARDS AND HONORARY MEMBERSHIP 2025

Nominations for the SAVA Awards are invited. These awards are conferred on persons who have made exceptional and significant contributions in the fields of Veterinary Science, or the Veterinary Profession and they serve as a prestigious form of recognition of distinguished service. They require sufficient but concise justification for the nomination in the category selected, as outlined in the criteria listed for each category. The presentation of awards will be made at a suitable venue and occasion identified by SAVA and this usually occurs every second year to coincide with the Gala Dinner of the SAVA Biennial Congress. Please adhere to the nomination guidelines as set out below.

1. GOLD MEDAL OF THE SAVA

Awarded to any person, in recognition of outstanding and sustained scientific achievement, with a major impact in the field of veterinary science in South Africa. The medal will only be awarded once to a particular person, and there will be one award per year. The award requires a very comprehensive curriculum vitae and motivation.

2. PRESIDENT'S AWARD

Awarded to any veterinarian registered with the SAVC in recognition of outstanding service to and advancement of the veterinary profession in South Africa. The award will only be bestowed once on a particular person, and there will be one award per year. The award requires a very comprehensive curriculum vitae and motivation. .

3. BOSWELL AWARD

Awarded to any member of the SAVA for eminent service rendered to the profession through the SAVA. The award may be bestowed upon more than one person in a particular year.

4. CLINICAL AWARD OF THE SAVA

Awarded to any veterinarian or group of veterinarians who are registered with the SAVC and have excelled in applied veterinary practice. There is a limit of one award per clinical discipline per year. Past recipients become eligible for another award after a period of five years, for a different contribution.

5. RESEARCH AWARD OF THE SAVA

Awarded to one or more veterinarians for a body of research related to Veterinary Science, and published in scientific journals, that has made an important contribution to a particular field of study. Recipients of this award may be eligible for nomination for new original research. Submission to the Awards Committee may be made by candidates themselves.

6. YOUNG VETERINARIAN OF THE YEAR AWARD

Awarded to one veterinarian registered with the SAVC per year, younger than 35 years of age or who has not been registered for longer than 10 years and who has made a significant contribution to veterinary science in his / her work sphere.

7. SOGA MEDAL

Awarded in recognition of exceptional community service rendered by a veterinarian registered with the SAVC or a veterinary student enrolled at a South African veterinary faculty. In addition to veterinary-related services, other forms of community service may be considered to support the nomination.

8. CITATION OF THE SAVA

The SAVA may bestow a citation upon one or more persons, including non-veterinarians, in recognition of specific achievements and / or meritorious contributions to the veterinary profession or the SAVA. More than one citation may be bestowed per year.

9. HONORARY LIFE MEMBER

Any SAVA member who has rendered long and outstanding service to the veterinary profession may be awarded Honorary Life Membership. Honorary Life Membership will not be granted to more than three people in one year.

10. HONORARY ASSOCIATE LIFE MEMBER

Any person who is not a veterinarian and who has rendered outstanding service to veterinary science, or the veterinary profession may be awarded honorary associate life membership. Honorary Associate Life Membership will not be granted to more than three people in one year.

All nominations must be supported by:

- Submissions must be made on the official nomination form available from the SAVA office.
- A brief motivation in terms of the conditions of the specific award, including the impact the work of the nominee has had. Evidence supporting the motivation, such as testimonials, may be included.
- A full *curriculum vitae* of the nominee, including a list of publication(s) where applicable and all the contact details of the nominee.
- Copy (ies) of the relevant publication(s) in the case of the Research Award.
- It should be clearly understood that all SAVA Awards are conferred for contributions that have been made specifically in a South African context and not elsewhere.

Please note that:

- Any member of the SAVA may submit nominations, while others making nominations must include the support and signature of a SAVA member. Nominators are encouraged to channel their nominations via a SAVA Group or Branch.
- Non-SAVA members may be nominated for all categories except the Boswell Award and Honorary Life Membership.
- Unsuccessful nominations of previous years may, at the discretion of the Awards Committee, be held over for consideration in the following year.
- Where the nominator and seconder have indicated their permission, award categories of nominations could be changed by the Awards Committee.
- Members of the Awards Committee are permitted to propose or second candidates for awards, on condition that they recuse themselves when such nominations are discussed.

The onus is on members to submit appropriate nominations by the due date.

Failure to comply with the above will lead to disqualification of the nomination.

All nominations, in electronic format, marked for the attention of Prof G Bath, Chairperson, Awards Committee of the SAVA, must reach the SAVA office, Sonja Ludik by

FRIDAY, THE 31ST JULY 2025

Nomination forms may be obtained from Ms Sonja Ludik
012-346 1150 or please send an email to sonja@sava.co.za

Ms Elize Nicholas says thank you for her retirement chair

Elize did her best to prevent anybody from obtaining a picture of her in her retirement chair, but with the help of an innovative private detective Vetnews could secure this sneak picture anyway.

We wish Elize the happiest of permanent holidays.

A big thank you from Elize Nicholas to everybody who contributed to this retirement gift that will remind her of the wonderful people she worked with and for.

Oranje Vaal Kongres 11 - 12 April 2025

Khaya Ibhubesi, Parys brought to you by

SAVETCON EVENT MANAGEMENT

On a rather cool Friday afternoon, delegates attending the Oranje-Vaal Branch of SAVA Congress were welcomed by the Chairperson of the Branch: Dr Johan Coertze. In his opening speech, he expressed his hope that this congress would not only add value to the clinical knowledge and skills already present in the room but that the attendants would renew old connections and forge new friendships. The opening was followed by an interesting talk by Mr Mike Perry on Snakebites in domestic animals. This very important talk on not only snakebites, the management thereof as well as quelling myths, was sponsored by **Biopharm.** A frank and open explanation was given on the shortage of anti-venom in South Africa as well as alternatives available. His talk was followed by a round table discussion on the mental state of veterinarians in South Africa. A state that is unfortunately reflected worldwide. His talk started with a thought-provoking video by the comedian Michael Jr on knowing your WHY. The statistics Dr Vd Merwe quoted were shocking, to say the least, and drove home the point that the veterinarians in the profession are in crisis.

After afternoon refreshments Dr Ryan Friedlein presented the first of 2 talks: *Chronic Nasal Diseases: Findings, imaging and treatment*. The second talk was on: *'Seizures: Brain tumours, diagnostic imaging and Treatment.*

Dr Nicolene Hoepner then Untwisted some radiographic signs with the group. **Biopharm** sponsored the most important event of the entire weekend, namely the Social Dinner. This was held at the Lion's Den Boma with the sound of the Vaalriver in full flood in the background.

Saturday morning saw the members of the branch getting together for the annual AGM where matters of importance were discussed. After the welcoming of delegates for the second day the talks kicked off with an **MSD Animal Health**-sponsored talk on Antimicrobial Selection - A Guide for the Large Animal Practitioner by Dr De Wet Barnard. A topic very applicable in a time where AMR resistance is widely discussed.

Ms Dale Parrish informed the delegates on how *co.mpanion Veterinary* Practices can redefine partnerships.

Dr Nicolene Hoepner delivered her radiographic talk on *A-fast & T-fast: When is a 'fast' approach warranted?*

Dr De Wet Barnard gave a brief history of the *European Growth Hormone Ban* and what it actually entails in practice. This talk was again sponsored by **MSD Animal Health.**

Dr Nicolene Hoepner then entertained the delegates by presenting a quiz on *Radiography/ultrasonography*.

Shortly after lunch the Sponsor Lucky draws took place and several people walked away with some spoil packages.

The day and Congress ended with 2 talks on Toxic plants by Dr Niel Fourie where he explained that *Sola dosis facit venenum, the toxin is in the dose.*

Guardians of the Gate: Unpacking Veterinarians' Legal Muscle in South African Food Safety

Trudie Prinsloo (Legalvet Services)

This article is intended to provide information and educate veterinarians on relevant aspects of the law. It is not intended as personal legal advice. SAVA is not responsible or liable for any advice or other information provided herein.

The integrity of the food supply chain is paramount to safeguarding both public and animal health. Often operating behind the scenes, veterinary professionals have significant, often underappreciated, legal authority in ensuring the safety of animal-derived food products. This article aims to highlight the key legal powers and responsibilities vested in veterinarians. Food safety legislation is contained in several acts and regulations, including the Meat Safety Act and the Animal Diseases Act, which empower vets to navigate their crucial role in protecting the nation's food supply.

The Meat Safety Act[i]

The cornerstone of meat safety regulation is the Meat Safety Act. Its primary objective is to ensure the safety and hygiene of meat and meat products intended for both human and animal consumption. The Act empowers registered veterinarians significantly, particularly when they are officially designated as "meat inspectors."

It's important to note that veterinarians are not automatically empowered to act as meat inspectors solely by virtue of their veterinary registration. The Act outlines a process for the appointment of meat inspectors, which involves authorization by the designated official of the Department of Agriculture, Land Reform and Rural Development (DALRRD).

Once appointed as meat inspectors, veterinarians are legally vested with substantial powers, including the right to enter premises where animals are slaughtered or meat is processed, handled, stored, or transported. They have the authority to inspect animals, meat, and related facilities to ensure compliance with hygiene standards and regulations. This includes conducting ante-mortem inspections of live animals before slaughter and post-mortem inspections of carcasses and organs to identify any signs of disease or contamination that could render the meat unsafe.

Furthermore, authorized veterinarians have the legal power to take samples of meat and related materials for laboratory analysis. If meat or meat products do not comply with safety standards or are deemed unfit for consumption, authorized veterinarians have the authority to seize and condemn such products. The Act and its regulations also outline the legal requirements for the marking, handling, storage, and transportation of meat, and designated veterinarians play a crucial role in overseeing adherence to these standards.

It's important for veterinarians to be aware of the offences and penalties associated with non-compliance with the Meat Safety Act and its regulations. The veterinarian's professional observations and documented findings can be critical in legal prosecutions.

The Animal Diseases Act[ii]

The Animal Diseases Act primarily aims to prevent the introduction and spread of animal diseases, but it plays a vital role in ensuring food safety, particularly concerning zoonotic diseases. Most relevant are the controlled diseases listed with their specific regulatory measures aimed at the prevention and eradication of these diseases. These diseases must be reported to the relevant State Veterinarians. All veterinarians have a legal obligation to report any suspicion or confirmed cases of controlled diseases. This early reporting is crucial for preventing the widespread transmission of diseases that could potentially impact animal health and subsequently the safety of animal-derived food products.

Regarding controlled zoonotic diseases, such as brucellosis and tuberculosis, the Act and its regulations prescribe specific measures that veterinarians are responsible for implementing. These include regular testing of animals, reporting of suspicious cases and complying with movement restrictions, and quarantine procedures when implemented by the relevant State Veterinarians. These measures are essential in preventing the entry of diseased animals or their products into the food chain, thereby safeguarding food safety. The link between effective animal disease control, as mandated by this Act, and a safe food supply chain cannot be overstated. Veterinarians, both in the state and private sectors, are at the forefront of this effort, and understanding their legal responsibilities in identifying, reporting, and controlling animal diseases is fundamental to their role in food safety.

Other Relevant Legislation

Beyond the Meat Safety Act and the Animal Diseases Act, other legal frameworks contribute to food safety. The Foodstuffs, Cosmetics and Disinfectants Act while primarily focused on human food safety standards, has implications for the quality and safety of animal-derived ingredients and products. Veterinarians involved in the production or processing of animal products should be aware of the relevant standards outlined in this Act. Furthermore, local municipal by-laws can impose specific regulations related to animal keeping, abattoirs, and food handling within their jurisdictions. Practising veterinarians involved with these practices should familiarise themselves with any such by-laws relevant to their area of practice. For veterinarians involved in the export of animal products, adherence to specific national and international export regulations, often requiring veterinary certification and compliance, is a legal necessity.

Practical Implications and Empowering Veterinarians

Understanding these legal powers and responsibilities is not merely an academic exercise but has direct implications for veterinarians' daily work. It empowers them to confidently exercise their authority when officially designated as meat inspectors and to fulfil their disease reporting and control obligations. Staying informed about the latest amendments to these Acts and their regulations is crucial.

Conclusion

South African veterinary professionals are indispensable guardians of food safety, wielding significant legal muscle through legislation such as the Meat Safety Act and the Animal Diseases Act. While formal appointment is required to act as meat inspectors, a veterinarian's proactive role in disease control and adherence to relevant regulations forms a critical line of defence in ensuring a safe and healthy food supply for the nation. Embracing these legal responsibilities within the One Health framework is essential for safeguarding both animal and human well-being.

If you have any questions, please feel free to contact me at trudie@legalvetservices.co.za

i The Meat Safety Act, No. 40 of 2000
ii The Animal Diseases Act, No. 35 of 1984
iii The Foodstuffs, Cosmetics and Disinfectants Act, Act No. 54 of 1972

Superficial Pyoderma in Dogs: More Than Just a Bacterial Problem

By Monica Burger, BSc BVSc (UP)

Superficial pyoderma in dogs remains one of the most common dermatological presentations in general practice. But as with many routine conditions, it's easy to fall into the trap of treating it as a straightforward bacterial infection. In reality, superficial pyoderma is often a **multifactorial syndrome**, driven not only by infection but also by underlying **inflammation**, **barrier dysfunction**, and **commensal overgrowth**.

Inflammation drives infection

Superficial pyoderma is technically defined as a bacterial infection confined to the epidermis and hair follicles. Staphylococcus pseudintermedius (a commensal skin bacteria) is usually the culprit. We now understand that the overgrowth of commensal bacteria like Staph doesn't happen in a vacuum.

In many cases, cutaneous inflammation precedes infection. Allergic dermatitis (atopic or cutaneous adverse food reaction), ectoparasites, or frictional trauma (like skin fold dermatitis) can all disrupt the skin barrier. Once the barrier is compromised, the resident microbiota can shift from commensal to opportunistic. Opportunistic infections of the skin contribute to inflammation and so the vicious cycle of inflammation-infection sets in.

The other common skin commensal organism, Malassezia, is often a great contributor to this cycle - not merely an innocent bystander.

Malassezia: The Unsung Aggravator

While pyoderma implies a focus on bacteria, Malassezia plays a pivotal role in many of these cases.

Failure to address the concurrent Malassezia overgrowth will result in failure of clinical resolution or relapse as soon as antimicrobial therapy is stopped. This commensal yeast thrives in lipid-rich, inflamed environments.

It contributes to skin barrier dysfunction by producing lipases and proteases that can break down the bonds between skin cells in the outer dead layer of the skin (the stratum corneum), which acts as the skin's main physical barrier.

In dogs with allergic skin disease, we often see a Malassezia-Staphylococcal loop: inflammation promotes yeast overgrowth, which fuels more inflammation, which in turn supports bacterial overgrowth.

Recognizing and breaking this cycle is key to effective management.

Ignoring Malassezia in cases of recurrent or treatment-resistant pyoderma may set you and your client up for frustration.

Cytology: Your Clinical Compass

A simple, fast, inexpensive tool that we often underutilize is **in-house cytology**.

Not only can it confirm the presence of bacteria or yeast, but it also provides information about the relative load and the degree of inflammation. It will also differentiate primary pathogens such as Pseudomonas or Klebsiella from opportunistic overgrowth of Staphylococcus.

This distinction matters because not all overgrowth is infection.

In some cases, what appears to be pyoderma may actually be **overgrowth without true invasion**. These cases may respond to topical therapy alone or require a different primary treatment target (i.e. allergy control).

However, high neutrophil counts with intracellular cocci indicating phagocytosis confirm infection and justify systemic antimicrobial use.

Cytology supports **responsible antimicrobial stewardship**, helping us avoid unnecessary antibiotics while also ensuring we treat genuine infections effectively.

Techniques for sample collection include **direct impression** (the author's preferred collection method), **acetate tape** (can yield too many dead skin cells of dry lesions which makes the microscopic field quite busy and difficult to interpret), **swab collection** and rolling onto slide (good for exudative purulent discharges or interdigital areas).

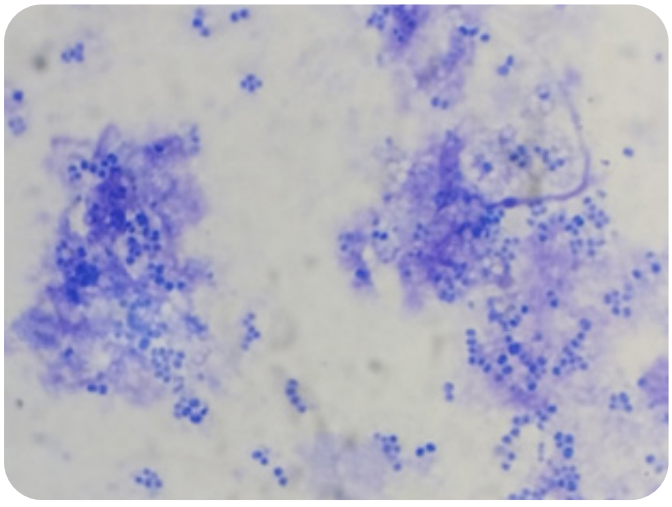

Image showing Staphylococcus as overgrowth without invasion (note the lack of neutrophils and the lack of Malassezia). This patient responded well to topical therapy alone.

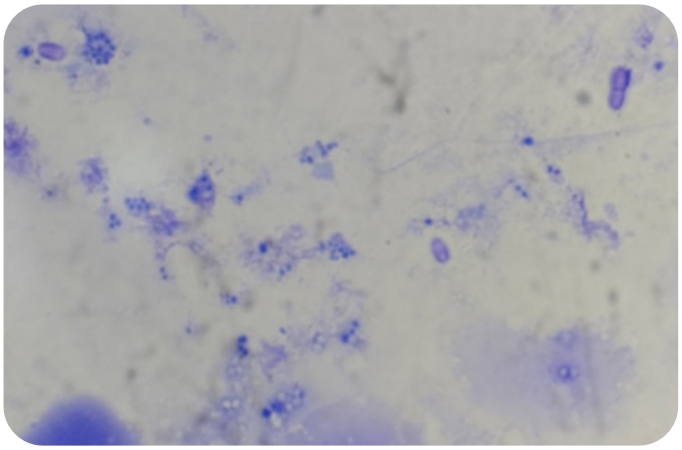

Image showing Staphylococcus and three Malassezia organisms. Note the lack of neutrophils – therefore another good candidate for topical antimicrobial therapy and systemic inflammation control as needed.

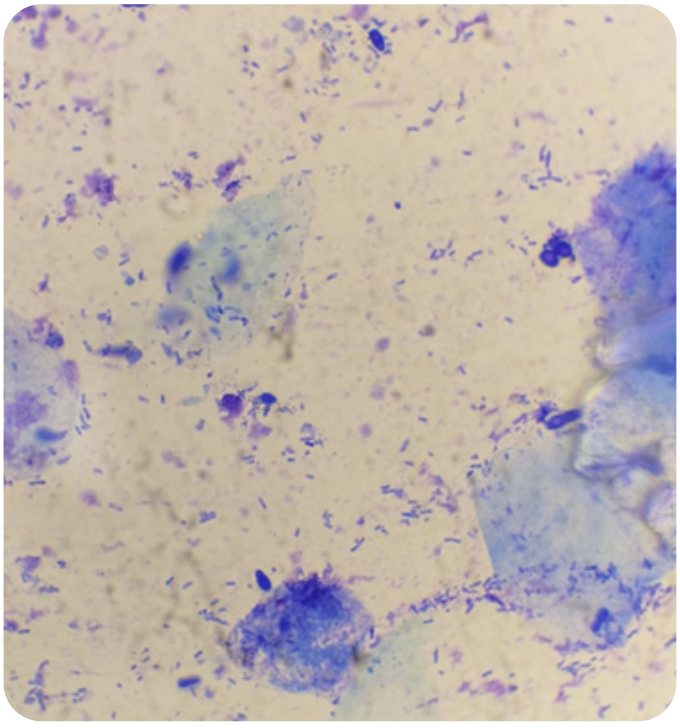

Image showing primary bacterial infection of a rod bacteria with Malassezia overgrowth. Scant neutrophils were present in this sample, but due to the severe inflammation of the skin and the presence of a primary pathogen, systemic antimicrobial and anti-inflammatory therapy is warranted together with topical therapy. This sample was collected from the dorsal interdigital space with moderate erythema.

Practical Takeaways

- **Treat the inflammation**, not just the infection.

  Do not hesitate to utilise corticosteroids at anti-inflammatory doses when treating pyoderma (if the individual patient does not have concurrent comorbidities contraindicated for corticosteroid use). The author prefers Dexamethasone 0.1-0.2mg/kg SC once off followed by Prednisone 0.3 – 0.5mg/kg q24h for 4-6 days, then 0.3mg/kg every 48h for 3-6 treatments. The longer the inflammation has been present, the slower the taper.

- **Don't forget Malassezia**, especially in dogs with pruritus, greasy seborrhea, malodorous coats or lichenification.

- **Cytology**: every dermatology consultation, every time: it distinguishes infection from overgrowth and guides treatment decisions.

- **Think topicals first:** many superficial infections respond well to topical antiseptics and antifungals, limiting systemic drug exposure. Be sure to read the active ingredients list of topical products. Chlorhexidine alone has limited effectiveness against Malassezia. It is best to choose combination products containing fungistatic or fungicidal properties.

- **Address the underlying condition** – is it an allergy, is it due to high friction or conformation problems, skin barrier repair through good hygiene, nutrition and addressing underlying exacerbating conditions.

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Practical approach for bacterial culture and sensitivity of corneal ulcers

Dr Brent Sirrals,
Specialist Veterinary Ophthalmologist
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Corneal ulcers are a common presenting complaint in private practice. Knowing when to consider antibiotic use is important. Furthermore, knowing when to consider and how to collect samples for bacterial culture and sensitivity can greatly benefit the patient. I will discuss a few guidelines that can be used by the general practice veterinarian to make this decision.

Firstly, for any eye presented with pain, a discharge, redness or a suspected injury, always perform a fluorescein stain examination. Fluorescein is both lipophilic and hydrophilic and will adhere to corneal stromal tissue and exposed intracellular spaces. It does not stain intact corneal epithelium or Descemet's' membrane. Fluorescein absorbs short wavelength blue light around the 490 nm spectrum but then emits fluorescent green light at the 520 nm spectrum in alkaline environments such as the tear film. Thus, to do the examination correctly you must examine the eye, after applying the stain, in a darkened environment with a cobalt blue filtered light on your ophthalmoscope. If you do not have this available, then a "Wood's lamp" or UV light may provide some benefit to highlight the fluorescent effect. Use of the stain has additional benefits to evaluating roughness of the corneal surface (punctate staining), detecting aqueous humor leakage (Seidel test), indirectly evaluating the mucin and lipid components of the tear film (tear film break-up time) and patency of the naso-lacrimal duct system (Jones test).

The second important aspect is that most positive staining lesions would require topical antibiotic use. If the corneal stromal tissue is exposed the eye is at risk for bacterial colonization. A few exclusions would be uncomplicated superficial abrasion injuries, uninfected chronic corneal calcareous degeneration lesions, and simple Herpes virus-related lesions (**Figure 1**).

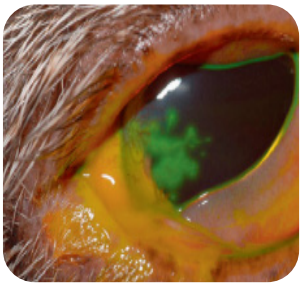


Figure 1: Typical dendritic ulcer caused by Feline Herpes Virus

The type of lesion and its characteristics can be used to judge if a corneal swab for bacterial culture and sensitivity is indicated. Acute uncomplicated superficial lesions (**Figure 2**) do not need a culture. Descemetoceles (**Figure 3**) may rupture if attempting sample collection. Perforations and foreign body injuries require surgery (**Figures 4 & 5**).

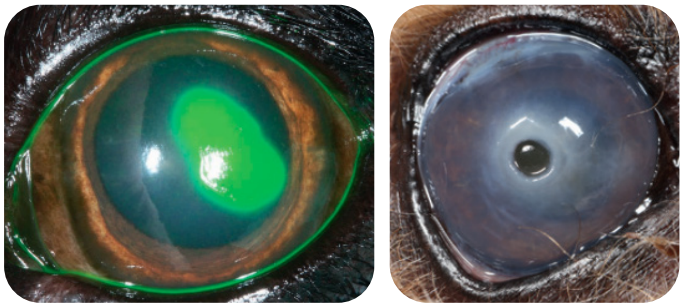
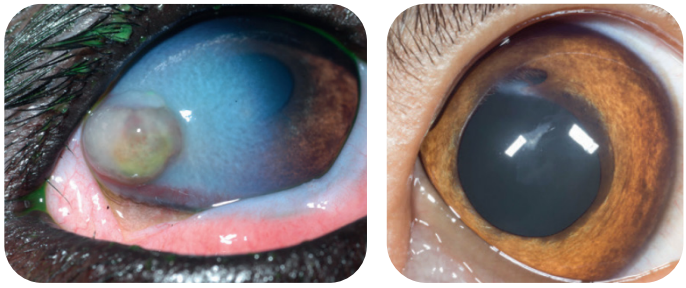
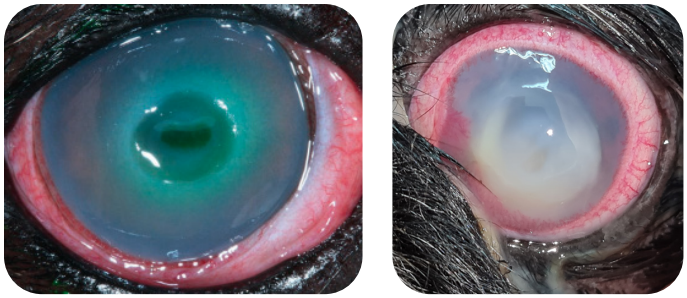


Figure 2 & 3: Superficial epithelial ulcer and a Descemetocele



Figures 4 & 5: Corneal perforation with an iris prolapse; Foreign body injury

Lesions that will benefit from sample collection include keratomalacia (**Figure 6**) and deep stromal ulcers (**Figure 7**).



Figures 6 & 7: Keratomalacia and a deep stromal ulcer

To collect a swab from the corneal surface the patient must be calm and restrained. If the patient is anxious, mobile, aggressive or severely painful then light sedation must be used.

Intravenous butorphanol works well and is short-acting.

Topical sedation of the eye can be done (*Novasin Wander* drops) 10 minutes before sampling. Avoid touching the eyelids and surrounding conjunctival tissue or any discharge present.

The swab is applied gently to the corneal lesion and slowly rotated or scraped over the corneal surface 2-3 times.

The swab is then packaged in the tube with a growth medium and sent to the laboratory as soon as possible.

Your normal baseline therapy (tribiotic, chloramphenicol or first-generation quinolone) may then commence until the culture results are available.

Third or fourth-generation quinolones, aminoglycosides and fortified compounded products should be reserved for resistant infections.

Once the culture results are received a change to the topical medication can be done. Practically we often suggest a follow-up within 7-10 days and by this time we mostly have a provisional result and can then re-assess the ulcer and make the appropriate change to the topical antibiotic if required.

Always remember referral for complicated cases is often best done soon during the course of the infection to limit the risk of perforations developing and to provide further input if surgery is required.

Eye COLUMN

Influential Life Coaching

HARSH TRUTH UPON REFLECTION

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I hope this article finds you and your families well and safe!!! Last month we looked at taking **the right break for you**, whatever that is, is defined by you. Whether it is a long or short break, it is a valuable way to feel restored and refreshed. It is also essential to take short breaks periodically throughout the day to recharge your attention and productivity. This month we look at brutally honest introspection and reflection.

Disclaimer: brutal honesty is a double-edged sword that can either strengthen or shatter the delicate fabric of our mental well-being and interpersonal relationships. It is a concept that is both praised and feared.

Fundamentally, brutal honesty is the expression of one's thoughts without sugarcoating or tempering the message. "Truth tellers," tend to score high on openness and low on agreeableness. Such individuals are more likely to value directness and are far less concerned, if at all, with being nice or being liked. E.g. They will tell you your new haircut looks like a dentist did it. They strongly believe in the supremacy of facts over feelings, or that the harsh truth, is always preferable to a comforting lie. I have also met individuals who use harsh feedback as a defence mechanism, protecting themselves from potential blame or disappointment, while others view it as a moral imperative to expose the truth at all costs.

The potential benefits: in a world of fake news and lies, there is something refreshing about unfiltered truth. It fosters transparency and trust in relationships (a deep sense of security). What you see is what you get. In reflective exercises, the truth can contribute to personal growth and self-awareness, looking at ourselves more objectively. It may sting to get negative feedback, but this feedback is invaluable for personal development. It is also a powerful tool for problem-solving and decision-making (especially in high-stakes situations). Your lawyer should not hesitate to tell you about a severe problem out of fear of upsetting you. In such cases, brutal honesty is not just beneficial – it is crucial.

The risks: The emotional impact on people can be severe, especially when delivered without consideration for the other person's feelings. Think back to when someone told you your work was boring or confusing. Brutal honesty can damage interpersonal relationships. It is not just about the words, but the trust that is broken. Such "truth tellers" often find themselves socially isolated.

There are times when the harsh truth is appropriate and times when it is not, depending on the **context.** In the **workplace**, it can lead to more efficient problem-solving and faster progress OR create a tense and uncomfortable work environment. In **romantic relationships**, harsh honesty can either deepen intimacy or drive a wedge between partners. Delivery and reception will determine that. **As a parent**, children's developing psyches may not always be equipped to handle raw, unfiltered feedback, crushing creativity and self-esteem.

Balancing honesty and empathy requires emotional intelligence – being aware of our own emotions before and upon delivery of our message, as well as understanding and managing our own emotions and those of others. Delivering the truth without unnecessary pain. **Self-awareness and personal growth cannot take place without self-reflection**. We need to be honest with ourselves about our motivations and the potential impact of our words. E.g. The **"sandwich method,"** involves layering the harsh truth between two positive or supportive comments. This remarkably simple technique illustrates the principle of softening the blow of harsh truths. Timing and context also play vitally important roles in the delivery of honest feedback and thoughts. E.g. Telling your best friend he has chosen the wrong career might be necessary, but doing so at their graduation is most likely not the best time. Choose the right moment to tell your friend, to deliver your thoughts, and to anticipate when your friend is most likely to be receptive.

Being true to ourselves does not mean disregarding the feelings of others. Find a way to express your authentic selves while still maintaining empathy and consideration for those around you. **Practice mindful honesty** – it is crucial to understand that honesty without empathy is just cruelty and that the most powerful truths are those that are shared with compassion.

Aligning our actions with our values is key – we would not want people to be cruel to us. Honesty is a tool for growth and connection and NOT a weapon to assert superiority or avoid vulnerability. We need to respect the dignity and worth of others the same way we expect the same from them. It is worth the effort.

Cultivate a form or style of communication that's both truthful and kind, **direct yet considerate**. Upon reflection, you will find that the most powerful truths are those that are delivered with compassion, received with an open mind, and used as important intermediate steps for growth and understanding.

That means that the next time you feel the urge to be brutally honest, pause for a moment. Consider your words and the way you are delivering them. The very same applies to self-talk too. **Words have the power** to hurt, but also the power to heal, to inspire, and to transform. Choose appropriately, and often, you will discover that honesty, when tempered with empathy, can be the most powerful tool for positive change in your workplace, your relationships, your performance and in yourself.

Next month, we will continue looking at more ideas for improving our quality of life and overall performance both at work and at home.

The SAVA Stress Management Hotline is there to assist members who are experiencing personal problems by offering access to professional counselling/advice.

The hotline can assist with referrals or simply offer much needed emotional support when anxiety, depression, anger, grief, lonelinessand fear are at their highest.

The following SAVA members are available on the SAVA stress management hotline. If required, they will refer you to professionals.

Ken Pettey	082 882 7356	ken.pettey@gmail.com
Aileen Pypers	072 599 8737	aileen.vet@gmail.com
Willem Schultheiss	082 323 7019	schultheisswillem@gmail.com
Mike Lowry	084 581 2624	mikelowry@sai.co.za
Tod Collins	083 350 1662	tcollins@isat.co.za

24-Hour, Toll-Free Helpline

Manned by psychologists, social and frontline healthcare workers: 0800 21 21 21

The SAVA Stress Management Hotline

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Willem Schultheiss :
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Mike Lowry: 084 581 2624
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Tod Collins: 083 350 1662,
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mtubavet@telkomsa.net
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Ref24OC04

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Junior Vet Position at the Society for Animals in Distress! Seeking a driven, passionate individual with a strong interest in welfare and community outreach with ambition to grow into a management role.
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Email: encassim@gmail.com
or visit www.cvanaesthetics.co.za
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For more information or to discuss a case please contact: Georgina Crewe, 115 9th Ave., Fairland, Johannesburg 2195, Telephone: 011-678-3121, Cell: 082-492-6247,
E-mail: crewegeorgina@gmail.com
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26-27 JULY 2025

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PROGRAMME

Day 1

09:00 Sponsors welcome
09:15 Approach to Elbow Dysplasia
09:55 A few "must knows" in veterinary ophthalmology
10:35 TEA
11:05 Approach to Hip Dysplasia
11:45 Ocular neoplasia Part 1
12:25 Approach to Cruciate Ligament Disease
13:05 LUNCH
14:05 Approach to Patella Luxation
14:45 Ocular neoplasia Part 2
15:25 TEA
15:40 Corneal Ulcers and the management options.

Day 2

8:30 Sponsors welcome
8:45 Acute onset blindness and your DD list
9:25 GDV
10:05 TEA
10:35 ADAMTS17 gene and its effect on the eye
11:35 Intestinal surgery techniques and tips
12:15 Diagnostic and treatment modalities used in veterinary ophthalmology
12:55 LUNCH
13:55 Basic skin surgery techniques and tips
14:35 Some fun facts about vision in wildlife
15:15 TEA
15:30 Approach to Spinal Cases

MORE INFO; WWW.VETLINK.CO.ZA/BUSH-BREAK-26-27-JULY-2025/

Research and Knowledge Based Benefits

Vetnews

To read the monthly publication that keeps you up to date with member news, member activities and current topics in the world of veterinary research and events, go to "Members Menu" and click on the VetNews Tab.

To complete the CPD articles in the VetNews magazine, go to "Members Menu". Click on the VETNEWS tab - all back issues, CPD articles and relevant quizzes are available HERE. Now you can answer the questions and earn your CPD points.

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SAVA will be hosting 10 x CPD webinars in 2025.

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- The best speakers

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The JSAVA is a contemporary multi-disciplinary scientific mouthpiece for veterinary science in South Africa and abroad.

Its content includes reviews on various topics, clinical and non-clinical articles, research articles and short communications as well as case reports.

The JSAVA is published in digital format and is available free (open access).

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For more information, please go to www.jsava.co.za

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SAVA's event & webinar company, SAVETCON offers discounts to SAVA members.

For more information on conferences and webinars, please go to:

www.savetcon.co.za

Your discount will be applied upon making a booking for an event.

South African Veterinary Foundation

Promoting the knowledge, image and status of the Veterinary and Paraveterinary Professions through research and support.

For more information, please go to www.savf.org.za

Or contact us on (012) 346 1150

Individual Member Benefits

VODACOM BUSINESS

SAVA understands the importance of reliable and cost-effective communications for all businesses, and to support our SAVA members, we have negotiated with Vodacom to make available the same deals and support they offer to big businesses.

For more information, please contact Ashton Chetty on:
Ashton.chetty@vodacom.co.za or 082 858 9909.

LocumBaseVETS

LocumBaseVETS full access subscription reduced from R299/m to R249/m with a 10% facilitation cost. (If a SAVA member does not opt-in for renewal, the retail pricing will stay at a 20% facilitation fee.) Full access pay-as-you-book fees, reduced from 20% to a 15% facilitation fee. Permanent placements sourced with LocumBaseVETS will have the 15% fee reduced to a 7% fee of the total annual salary.

Contact us on hello@locumbase.com or visit www.locumbasevets.com

Veterinary Mental Health Wellness Programme

The SAVA stress hotline, where colleagues make themselves available to talk to members in need through difficult situations or to refer them for professional help. For assistance, please contact our hotline on 0800 21 21 21.

Members can also contact one of our mentors:

Ken Pettey: 082 882 7356, ken.pettey@gmail.com

Aileen Pypers: 072 599 8737, aileen.vet@gmail.com

Willem Schultheiss: 082 323 7019, Willem.schultheiss@ceva.com

Mike Lowry: 084 581 2624, mikelowry@sai.co.za

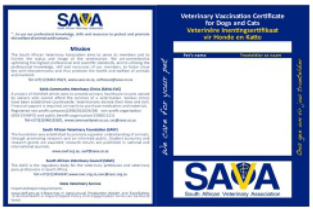
Tod Collins: 083 350 1662, tcollins@isat.co.za

Discount on Vehicle Purchase

SAVA has negotiated a preferential discount on Ford vehicles at the Ford Lazarus Dealership.

For more information, please contact burger@laz.co.za or contact them on (012) 678 0000.

Practice support



SAVA Vaccination Booklets: For more information or to place an order, please contact Debbie Breeze on debbie@sava.co.za

For more information on the purchases of name badges and books contact Sonja van Rooyen on assistant@sava.co.za

WhatsApp Communication Platform

Join our community and stay up to date with important topics in the veterinary industry and relevant matters as they arise.

SAVA WhatsApp Number: 081 849 6088

Liability Insurance

VetProtect offers a 7.5% discount to SAVA members and provides coverage for veterinarians across all disciplines. The cover includes Medical Malpractice, Professional Indemnity, Public & Products Liability, Employers' Liability & Commercial Crime. VetProtect covers the costs of legal representation for council proceedings, complaints, and financial claims—ensuring peace of mind while you focus on your practice. For more information, please contact Leonie Delgado at VetProtect@myownbroker.co.za or 0861 838 776. *FSP & Ins T's & C's apply*

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For more information, please email Claudia Cloete on: cvcmanager@sava.co.za

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