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The Veterinary Professional Associate Financial Model: Specialty Practice

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Abstract

The U.S. veterinary medical profession is facing a capacity crisis, struggling to meet the growing demand for services. Introducing a new mid-level provider role, the Veterinary Professional Associate (VPA), could bridge the gap between veterinarians and technicians, potentially helping to alleviate this issue. This project aimed to define potential VPA roles and responsibilities and assess their impact on workflow, productivity, and financial performance in a specialty orthopedic practice for companion animals. Based on expert interviews, we developed partial budget models to estimate the expected financial impact of VPAs. Under our model assumptions, adding one full-time equivalent (FTE) VPA significantly improved financial performance and increased throughput. These findings suggest that VPAs could be a viable solution to help address the capacity issues in veterinary medicine. Similar to successful implementations of physician assistants and nurse practitioners in human medicine, VPAs may enhance practice capacity and client satisfaction, improve patient outcomes and animal welfare, and increase practice profitability. Further research and real-world implementation are needed to validate these results and ensure the successful integration of VPAs into veterinary care.

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Introduction

Capacity in the veterinary medical profession is currently insufficient to meet the demand for veterinary services in the U.S.^{1,2,3} This gap is most frequently experienced as inadequate access to care in companion animal, food animal, and equine practice, but public practice, industry, academia, and other sectors are negatively impacted as well. Although seemingly acute, the shortage is not new.⁴ Along with expanding educational programs to train more veterinarians and veterinary nurses/technicians, it has been suggested that creating a new class of professionals, a mid-level provider, should also be considered.¹

First recommended in 2009 by faculty at the College of Veterinary Medicine and Biomedical Sciences at Colorado State University,⁵ a mid-level provider (or veterinary professional associate – VPA) could bridge the gap between veterinary nurses/technicians and veterinarians. Similar in concept to the physician's assistant from human medicine, a mid-level provider has since been recommended by several additional authors,^{6,7,8,9,10} and a first-of-its-kind Master in Veterinary Clinical Care (MVCC) academic program has been created at Lincoln Memorial University's College of Veterinary Medicine.¹¹ To further consider this idea, this project was designed to identify likely VPA roles and responsibilities and to estimate the potential impacts of the VPA on workflow, productivity, and financial performance in companion animal practice. Although general practice, specialty practice, and non-profit shelter practice were all analyzed, this report will focus on only the specialty practice.

Background/Literature – Mid-level human medicine providers, such as nurse practitioners (NPs) and physician assistants (PAs), have been shown to increase productivity and improve patient outcomes in human medicine. According to a report by Medical Economics, mid-level providers (MLPs) can substantially increase capacity in a primary care practice.¹² Their deployment can positively impact a medical practice by enhancing patient care and expanding appointment availability and practice hours. This, in turn, helps lower fixed costs per patient and boosts profitability for the physician owner. Data analyzed by the Medical Group Management Association reveals that financial performance improves when human medical practices employ non-physician providers.¹³

The benefits of deploying mid-level providers extend beyond improving the bottom line. Reviewing seventeen years of data from emergency department visits in the United States, a study published in the International Journal of Emergency Medicine found that working alongside emergency care physicians, mid-level providers can reduce wait times and improve physicians' efficiency.¹⁴ Mid-level providers can manage lower acuity visits and fill in the gaps in areas such as telehealth and routine care, freeing up physicians to oversee more complex cases. The evidence for these benefits is substantial. In a systematic review of thirteen randomized controlled trials across numerous countries, researchers concluded that advanced nurse practitioners enhance patient care, service cost-effectiveness, efficiency, and general patient satisfaction with the overall quality of care provided.¹⁴

Proper planning must take place to derive benefits from the deployment of mid-level health providers in human medicine. The World Health Organization has advanced the deployment of mid-level providers to expand access and affordability to healthcare worldwide. However, it notes that they need to be well-embedded in the system and receive adequate training, support, recognition, and pay.¹⁵ To fully leverage their benefits, MLPs should be included in the overall planning of the health practice, whether general or specialty.¹⁶

There are also discernible costs to employing a mid-level provider within a medical practice setting. Beyond salary and benefits, there is an increase in communication and coordination costs as MLPs work hand-in-hand with physicians. In solo physician practices, these costs may be particularly salient, potentially offsetting the benefits of MLPs.¹⁷ Thus, proper planning and deployment in smaller practices are likely to be especially important to realize the gains achieved when hiring a mid-level provider.

Like their human medicine counterparts, deploying a mid-level practitioner (or VPA) in veterinary practices could improve outcomes. As noted in the introduction, demand for veterinary services is rising, but the supply of veterinarians is not keeping pace with the demand. This market dynamic puts upward pressure on the prices of veterinary services. By creating a mid-level practitioner, or VPA, in veterinary practices, excess demand may be effectively satisfied, and the rising costs of veterinary services could be mitigated. As found in human medicine clinical settings, mid-level practitioners could provide additional availability for appointments and practice hours, increasing profitability for the veterinary practice, extending

access to care, and improving patient outcomes. This is likely to be true even within the context of most current practice acts and their requirements for veterinarian supervision. In the next section, we outline our approach to exploring the deployment of a VPA within a specialty practice setting.

Methods

Framework – For specialty practice, a set of anticipated roles and responsibilities for veterinary professional associates was defined *a priori*, and these initial boundaries and assumptions were later calibrated based on consensus from thought-leader interviews. Before the interviews, we provided background information on the initial conditions and assumptions to the interviewees for context (see Appendix A).

Thought-leader interviews initially focused on the 2022-23 LMU-CVM Advisory Board.

Additional interviews were conducted beyond the Board based on information that emerged as the project unfolded. In total, over 40 interviews were conducted. Along with developing consensus on the aforementioned set of boundary conditions and assumptions, these thought leaders provided essential information related to:

- Connections to veterinary practices whose data were used as a foundation for the scenarios to be modeled, and
- Anticipated impacts of VPA on workflow, productivity, and efficiency, as well as qualitative factors of importance (e.g., leadership and expected non-financial outcomes).

Modeling – A partial budget model was used to assess the potential impact of the VPA on practice financial performance.¹⁸ In this approach, a planning and decision-making framework is used to compare the costs and benefits of alternatives faced by a business. Only changes in income and expenses resulting from implementing a specific alternative are considered; all aspects that are unchanged by the decision are ignored. In short, partial budgeting allows analysis of how a particular decision will likely affect the profitability of the business, holding constant other factors.

Incorporated in the models for the current analysis are anticipated workflow impacts, including both productivity and efficiency, of adding one full-time equivalent (FTE)^a VPA to a given practice type.^b Model results provide estimates of profitability for various related scenarios. The robustness of these estimates was then evaluated through various break-even, sensitivity, and scenario analyses centered on key underlying assumptions.

Break-even analysis allows us to test our financial assumptions related to costs, along with workflow productivity. By pinpointing the break-even point, we identify potential weaknesses in the model, such as overly optimistic workflow productivity impacts or under-estimated costs.

^a For this study, a full-time-equivalent (FTE) was defined as 40 hours per week and 50 weeks per year. Note that FTE is not a person, but a way to quantify a certain amount of work done. It assumes a standard workweek and a full year of work, regardless of actual hours worked or time off taken. This is not the same as a full-time employee, which is an individual who works for a company on a regular basis, and whose hours may vary week to week, exceeding 40 hours at times and including paid time off for vacations, holidays, or sick leave. On an annual basis, full-time employees have individual work patterns, preferences, and needs that may not align perfectly with the standardized FTE concept.

^b For purposes of this study and report, all suggested VPA activities are restricted to those that comply with the relevant practice act(s).

Sensitivity analysis is a technique used to assess how changes in a model's inputs impact its final results. In essence, it's a "what-if" scenario for a model, allowing exploration of how variations in data or assumptions might influence the outcome. This is essential in testing a model, as it reveals the relative importance of underlying assumptions and helps identify any hidden vulnerabilities. Understanding how sensitive a model is to changes can establish greater confidence in its reliability and ensure its predictions hold weight under different conditions. Scenario analysis is a tool that expands a model beyond a single point forecast and delves into the realm of different plausible future scenarios, each with its own set of assumptions on time allocation and workflow productivity. By running the model through each scenario, we can observe how the projected benefits, costs, and hence net profitability of adding a VPA to the practice environment might change in a different – but not unlikely – situation.

The specialty practice model contained specific assumptions related to roles, responsibilities, and impacts on the workflow of hiring one FTE VPA. These model parameters were defined through second and third-level interviews beyond the LMU-CVM Advisory Board and involved veterinary professionals actively engaged in the specialty practice sector. Using sector-specific factors enabled the capture of the expected impact of one FTE VPA on productivity and profitability.

Results

Model Calibration – During our thought-leader interviews, interviewees generally agreed with the list of roles and responsibilities developed *a priori* (see Appendix A). As defined, the patient

care roles helped formulate specific quantitative assumptions for anticipated impacts on workflow and efficiencies to incorporate into the model. However, although there was overall agreement on the team leadership roles and responsibilities, the anticipated impacts on workflow and efficiencies were not easily quantified. Accordingly, these effects were relegated to the category of qualitative effects that provide valuable context in assessing the modeling results.

For specialty practice, it was noted that critical structural differences exist across the various specialty services. In that context, it was proposed that orthopedic surgery practice be modeled as an initial example, suggesting that an orthopedic surgery model would be sufficiently illustrative and useful for projection to other types of specialty practice.

Prototype Assumptions – For the prototype, data were obtained from a panel of seven orthopedic surgeons. The following assumptions provided the foundation for the orthopedic surgery specialty practice model.

- Veterinarians can legally delegate activities to a VPA within the realm of roles and responsibilities described.
- Sufficient client demand exists to support the increased workflow as modeled.
- Other critical assumptions are presented in Tables 1 through 6.

Table 1. Overall practice and veterinarian parameters – Specialty Practice Model

OVERALL PRACTICE PARAMETERS	
Weekday Daily Work Hrs. (Excl. Lunch)	9
Weekday Work Weeks Per Year	50
Surgical cases ACT*	\$4,500
Surgical rechecks ACT	\$200
Non-surgical cases ACT	\$750
Non-surgical rechecks ACT	\$150
DVM PARAMETERS (FTE BASIS)	
Scheduled Surgical Days Per Week	2
Scheduled Surgical Weeks Per Year	50
Ave Length of New Appt (min)	60
Ave Length of Recheck Appt (min)	30
Ave Length of Surgery (min)	60
DVM Hours/week	40

**ACT = Average Client Transaction*

Table 2. Current workflow – Specialty Practice Model

CURRENT WORKFLOW	
New Cases/Week (per FTE DVM)	10
% of New Cases that go to Surgery	75%
# Rechecks per Surgical Case	2
# Rechecks per Non-surgical Case	4

Table 3. Veterinarian FTE allocation and revenue generation (pre-VPA) – Specialty Practice Model

CURRENT DVM FTE ALLOCATION			CURRENT GROSS REVENUE	
Activity Type	Avg Hours/Wk	% Time	No. of Cases/Yr	Revenue/Yr
New Cases	10.0	25%	375	\$1,687,500
Surgery	7.5	19%	750	\$150,000
Rechecks	12.5	31%	125	\$93,750
Communication + Admin	10.0	25%	500	\$75,000
Totals	40	100%	1,750	\$2,006,250

Table 4. VPA parameters, impact on workflow, and staff requirements – Specialty Practice Model

VPA PARAMETERS	
VPA Work Weeks/Year (per FTE)	50
VPA Hours/Week (per FTE)	40
VPA Hours/Week for Clinical Roles (per FTE)	30
VPA Hours/Week for Non-Clinical Roles (per FTE)	10
VPA WORKFLOW IMPACT	
% Increase in New Cases with VPA	50%
New Cases/Week (per FTE DVM)	15
% of New Cases that go to Surgery with VPA	75%
% of Rechecks Delegated to VPA	80%
% of FTE DVM Comm and Admin Delegated to VPA	50%
% DVM FTE spent in VPA supervision	10%
STAFF PARAMETERS	
Increased Staff Requirements with one FTE VPA	
Credentialed Vet Nurse/Technicians (FTE)	1.50
Veterinary Assistants (FTE)	1.00
Customer Service Representatives (FTE)	0.50

Table 5. FTE allocations with VPA – Specialty Practice Model

FTE ALLOCATIONS (WITH VPA)				
Activity Type	DVM WITH VPA		VPA	
	Avg Hours/Wk	% Time	Avg Hours/Wk	% Time
New Cases	15.0	38%	n.a.	n.a.
Surgery	11.3	28%	n.a.	n.a.
Rechecks	3.8	9%	15.0	38%
Communication + Admin	6.0	15%	25.0	63%
VPA Supervision	4.0	10%	n.a.	n.a.
Totals	40	100%	40	100%

It is assumed that the veterinarian time that is freed up by the VPA can be reallocated to activities that generate higher revenue, primarily new cases and surgery. Ultimately, the related opportunities and exact mix of these new activities will be practice-specific.

Table 6. General cost structure – Specialty Practice Model

COST PARAMETERS	
FTE Compensation (Salary + Benefits or Wages)	
VPA	\$100,000
Credentialed Vet Nurse/Technician	\$45,000
Veterinary Assistant	\$30,000
Customer Service Representative	\$28,000
COGS as % of Total Revenue	15%
DVM Compensation as % of Total Revenue	25%

Prototype Results – Based on these assumptions, the results obtained are presented in Tables 7 and 8.

Table 7. Veterinarian-generated revenues (with VPA) – Specialty Practice Model

GROSS REVENUE WITH VPA		
Appt Type	No. of Appts	Revenue
Surgical cases	563	\$2,531,250
Recheck surgical cases	1,125	\$225,000
Non-surgical cases	188	\$140,625
Recheck non-surgical cases	750	\$112,500
Totals	2,625	\$3,009,375

- When compared to Table 3, the total increase in revenue is found to be **\$1,003,125**.

Table 8. Additional costs incurred with VPA – Specialty Practice Model

ADDITIONAL COSTS WITH VPA	
COGS	\$150,469
VPA	\$100,000
Credentialed Vet Nurses/Technicians	\$67,500
Veterinary Assistants	\$30,000
Customer Service Representatives	\$14,000
DVM*	\$250,781
Total	\$612,750

**This increased cost results from a net increase in veterinarian-generated revenue and would take the form of increased veterinarian compensation.*

- The net expected impact on profitability from adding one VPA is **\$ 390,375**. Note from Table 8 that in addition to increased profitability for the practice, veterinarian compensation is projected to increase by \$250,781 based on the increased practice productivity.

- Break-even, Sensitivity, and Scenario Analyses – To assess the degree of robustness of the orthopedic surgery specialty practice model, the following break-even and sensitivity analyses were performed.
 - Break-even analysis results indicate that—using the prototype assumptions—the net expected impact on profitability is \$0 if the increase in caseload due to adding one FTE VPA was only 17.6%. Any increase in caseload greater than 17.6% leads to a positive impact on net profitability. Note that even though the practice breaks even at 17.6% by hiring the VPA, veterinarian compensation is still greater than the no-VPA scenario because revenue increases over the prototype scenario. Recall from Tables 6 and 7 that veterinarian compensation is based on the amount of revenue produced. In addition, more animals receive care, and care is provided in a more timely manner.
 - Sensitivity analysis assessed the relative importance of prototype assumptions, with all else being equal. The following individual results were obtained:
 - An increase of 10% in the gross revenue per FTE specialist (i.e., increased from \$2M to \$2.2M), or 10% in the increased caseload as a percentage of the specialist FTE made possible by adding one FTE VPA (i.e., from 50% to 55%), or a collective increase of 10% in prices (i.e., ACT surg = \$4,950, ACT surg recheck = \$220, etc..) would be expected to result in a net impact on profitability that is 15.4% greater than the prototype (i.e., increased from \$390,375 to \$450,563).

- An increase of 10% in the VPA salary plus benefits/wages (i.e., increased from \$100,000 to \$110,000) would be expected to result in a net impact on profitability that is 2.6% less than the prototype (i.e., decreased from \$390,375 to \$380,375).
- A collective increase of 10% in the salary plus benefits (or wages) of the non-DVM, non-VPA staff would be expected to result in a net impact on profitability that is 2.9% less than the prototype (i.e., decreased from \$390,375 to \$379,225). An identical impact on profitability would be expected if the increase in requirements for non-DVM, non-VPA staff associated with adding one FTE VPA was 10% higher.
- An increase of 10% in COGS as % of total revenue (i.e., increased from 15% to 16.5%) would be expected to result in a net impact on profitability that is 3.9% less than the prototype (i.e., decreased from \$390,375 to \$375,328).
- Because of the somewhat wide range of suggested input variable values obtained from our sample of seven orthopedic surgeons, two alternative scenarios at the extremes of these ranges were created for comparison to the prototype. Key variables for the two scenarios are compared to the prototype in Table 9.

Table 9. Key variables for alternative scenarios – Specialty Practice Model

VARIABLE	Prototype Model	Scenario A	Scenario B
New Cases/Week (per FTE DVM)	10	7	13
% of New Cases that go to Surgery	75%	55%	80%
% of New Cases that go to Surgery with VPA	75%	65%	80%
Ave Length of New Appt (min)	1 h	45 min	30 min
Ave Length of Recheck Appt (min)	30 min	20 min	22.5 min
# Rechecks per Non-surgical Case	4	6	4.5
Surgical cases ACT*	\$4,500	\$4,000	\$4,350
Surgical rechecks ACT	\$200	\$250	\$100
Non-surgical cases ACT	\$750	\$750	\$1,150
Non-surgical rechecks ACT	\$150	\$100	\$100
% of FTE DVM Comm and Admin Delegated to VPA	50%	75%	50%
% of Rechecks Delegated to VPA	80%	75%	80%

*ACT = Average Client Transaction

- For the first alternative scenario (Scenario A), note that the number of new cases per week and the proportion of new cases that go to surgery are markedly lower than in the prototype scenario. However, the length of initial and recheck appointments is substantially shorter, and the ACT for surgical cases is lower. With other assumptions (noted in Table 9 and those not listed) the same as in the prototype, the net expected impact on profitability from adding one FTE VPA in this scenario was \$211,388. (The prototype was \$390,375.)
- For the second alternative scenario (Scenario B), note that the number of new cases per week and the proportion of new cases that go to surgery are markedly higher than the prototype scenario. The lengths of initial

and recheck appointments are substantially shorter, and the ACTs for surgical and non-surgical cases are higher. With other assumptions (noted in Table 9 and those not listed) the same as in the prototype, the net expected impact on profitability from adding one FTE VPA in this scenario was \$560,700. (The prototype was \$390,375.)

Discussion

At the beginning of this project, managers of several specialty veterinary practices were interviewed to determine how a VPA might fit into their operations. It became apparent that each specialty service has unique challenges and workflows, making it difficult to model every possibility within the project's time constraints. Most managers felt the most unquestionable financial benefit would be in orthopedics, so this was the service selected for modeling. Other specialties may find similarities and thus may be able to draw valuable comparisons to the orthopedics case.

Before expecting similar financial results for introducing one FTE VPA to their own practice, specialty hospital managers need to carefully consider the parameters set out in Tables 1 to 3 to determine if their current operations differ and if so, how. From there, they can establish realistic expectations.

If the veterinarian time freed up by the VPA is not filled with higher revenue-generating activities, then the projected increase in revenue will not likely be realized (see table 7). The

model assumes an unlimited demand for services, but the break-even analysis suggests that

"Clients are used to seeing a P.A. for themselves so they will have no problem accepting this for their pets."
Practice manager, large specialty hospital.

introducing one FTE VPA must result in at least a 17.6% increase in caseload to experience any increase in practice profitability.

The specialty practice model was quite robust and stable under various assumptions. Sensitivity analysis indicates that the model results are most sensitive to gross revenue per FTE specialist, percentage caseload increase, and prices (ACTs). Specialty hospital managers would do well to look closely at these specific assumptions when contemplating the addition of a VPA.

Assumptions related to VPA compensation, non-DVM staff compensation, and COGS were less important.

As mentioned in the results section, operations data were obtained from seven different orthopedics specialty practices. As with all specialties, there were considerable variations, so Table 9 depicts two alternative scenarios that were modeled based on differences in the percentage of new cases that progress to surgery and other key variables. Although these scenarios were analyzed because of the somewhat high variability within the specialty, results indicate a substantial positive impact of the VPA across the board.

One potential role for a VPA that surfaced repeatedly during this project's interviews was active assistance with communication. In a referral practice, timely communication with both the referring veterinarians and clients about ongoing issues is critical to success. Interviewees indicated that engaging VPAs in this role would improve patient care and outcomes, help manage workflow around complex cases, and improve hospital culture. As built into the current model, it might also allow the specialist to see more new cases as it frees up more of their time.

"We have a technician we have trained extensively to serve in this role. Her primary responsibility is communication with clients and referring veterinarians. I couldn't work without her."

Orthopedic surgeon

A final note on the specialty practice is warranted. Improved workflow, care coordination, communication, and case management would almost certainly improve the quality of the work environment for the entire healthcare team (veterinarian included). Meeting demand more effectively would likely reduce employee stress, enhance client satisfaction (due to shorter wait times, better communication, and improved case outcomes), and boost overall workforce morale.

Summary

The introduction of mid-level providers, or VPAs, into veterinary practice settings presents one promising solution to help address the profession's longstanding capacity issues. Drawing parallels with successful implementations in human medicine, this study highlights the potential

benefits of VPAs in increasing practice capacity (and client satisfaction), improving patient outcomes (and animal welfare), and enhancing practice profitability.

The reliance on partial budgeting techniques provides a structured approach to assessing the potential financial implications of integrating VPAs into veterinary practices. By isolating changes in income and expenses resulting from the introduction of VPAs, the models offer valuable insights into the possible financial returns for practice owners. Certainly, it will be helpful to model additional practice types and scenarios in the future, but the robust nature of the current results provides an invaluable first step.

One important feature of the current study is the restriction of all VPA activities to those that comply with current relevant practice act(s). In moving forward, it could be of great interest to model additional scenarios where that particular constraint is relaxed as individual jurisdictions consider potential policy changes that would enable a broader scope of VPA activities. Of most significant interest, perhaps, might be the (in)ability of a VPA to establish a VCPR (i.e., see new clients/patients) and/or perform minor surgeries. The positive results obtained in the current study might well suggest additional benefits could be attained in the context of such broader-scope scenarios.

The thought-leader interviews conducted as part of the project contribute critical insights into the possible roles and responsibilities of VPAs, as well as the structural nuances of different practice settings. These interviews revealed a set of qualitative impacts on practice workflow

and efficiency, benefits not fully captured in the quantitative models. Similar qualitative, positive impacts related to workforce culture and satisfaction were noted. In fact, the VPA might well offer an attractive, entirely new opportunity for credentialed veterinary nurses/technicians to advance in their careers.

With regard to veterinary nurses/technicians, several of the thought-leader interviews revealed that situations already exist in veterinary medicine, across practice types, where individuals are currently performing many, if not all, of the roles and responsibilities identified in this project as appropriate for the VPA (within existing practice acts). In general, these are veterinary nurses/technicians who have been informally trained by other veterinary professionals in those practices or have completed one of the existing veterinary technician specialist (VTS) credentialing programs. From this perspective, the question might reasonably be raised as to why a new position is even warranted. In that context, two important points emerge:

- The fact that individuals are currently working in these roles strongly validates the need for and benefits of the VPA concept. Veterinary technician specialists add tremendous value to a practice, albeit in specialty-focused roles by design.
- Creating a new position will help to standardize the roles and responsibilities of the VPA, distinct from and complementary to existing VTSs. With this as a foundation, structured educational and credentialing programs can be developed around the broad base of competencies and knowledge necessary for consistent, predictable success as a VPA.

Regulatory environments and potential restraints notwithstanding, perhaps one of the biggest hurdles to the successful implementation of a midlevel provider in veterinary medicine will be the inherent hesitation or reluctance of veterinarians to delegate clinical responsibilities.

Unfortunately, veterinary nurses/technicians have not been effectively leveraged to achieve their full potential contribution to the profession. A similar approach to the adoption of possible VPA roles and responsibilities would seriously constrain their potential impact.

Overall, introducing a VPA could offer a significant step towards addressing the capacity challenges in the veterinary profession. By combining empirical analysis with expert insights, this study provides a comprehensive framework for evaluating the potential impact of VPAs on practice performance. However, further research and real-world implementation efforts will be necessary to validate the findings and ensure the successful integration of VPAs into veterinary care settings.

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Appendix A

Masters in Veterinary Clinical Care Financial Model Project

Interview Background Information

Roles and Responsibilities – Based on your vision for the anticipated contributions of MVCC graduates in companion animal practice, please comment on – and critique – the following outline of expected roles and responsibilities.

Expected Roles and Responsibilities

Subject to existing practice acts and state regulations, we envision this new professional (MVCC graduate) to contribute in two distinct roles: patient care and team leadership. For each of these, the most likely responsibilities are as follows:

- *Patient care*
 - *Patient history taking*
 - *Physical examination*
 - *Advanced management of cases (in appropriate consultation with a veterinarian)*
 - *Diagnostic planning, procedures, and assessment*
 - *Treatment planning, procedures, and assessment*
 - *Nursing planning, procedures, and assessment*
 - *Client communication, including*
 - *Medical updates for existing cases*
 - *Client education at discharge*
 - *Case follow-up as appropriate*
- *Team leadership*
 - *Hospital operations*
 - *Provide staff leadership*
 - *Understand financial dimensions of practice management*
 - *Advanced coordination of care – develop and implement systems to effectively coordinate the contributions of various staff members, optimizing their respective roles/responsibilities*
 - *Receptionist*
 - *Veterinary assistant*
 - *Veterinary nurse/technician*
 - *Veterinary technician specialist*
 - *Veterinarian*
 - *Specialist veterinarians*
 - *Internal*
 - *External (referral)*