

Dutch veterinary nurses' scope of practice: an exploratory study

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Abstract

Background: Many benefits are available to organizations, team members and patients through effective interprofessional collaboration within a healthcare team. In order to be effective as a team, it is important that team members are able to work to their full scope of practice. There are prevalent assumptions that veterinary nurses in the Netherlands do not work to their full scope of practice. Underutilization as well as inappropriate utilization of veterinary nurses within veterinary practice might be present. To date, there is no published research supporting this theory.

Aim: The aim of this study was to explore Dutch veterinary nurses current scope of practice as perceived by veterinary nurses and practice owners, and highlight differences compared to their intended scope of practice.

Material and methods: A literature study was performed to establish Dutch veterinary nurses' intended scope of practice. To explore veterinary nurses' current scope of practice, a qualitative (interview) and quantitative (questionnaire) analysis were conducted among both veterinary nurses and practice owners in the Netherlands.

Results: Both veterinary nurses and practice owners acknowledged that knowledge and skills of (their) veterinary nurses were not optimally utilized. Both groups also reported that officially prohibited activities were delegated to nurses. Reluctance to delegate and lack of clarity around legislation/educational preparation were identified as possible barriers to effective utilization.

Conclusion: Results suggested that Dutch veterinary nurses do not work to the full scope of their practice. Compared to their intended scope of practice, veterinary nurses appeared to be underutilized. They also performed activities that were outside their scope of practice. By further addressing underlying reasons (barriers) of why veterinary nurses do not work to their full scope, it is expected the gap between current and intended scope of practice can be reduced.

1. Introduction

Interprofessional collaboration (IPC) is the collaboration between practitioners of different health professions in order to deliver high-quality patient care (Mahler et al., 2014; Reeves et al., 2017). It is established that good IPC is associated with improved healthcare. Organizations, team members and patients can benefit from an effectively working interprofessional team (Mickan, 2005; World

Health Organization, 2010). In order to be effective as a team, it is important that team members are able to work to their full scope of practice (SOP). Full SOP (i.e. intended SOP) is defined as optimal utilization of a person's educated capabilities for which he or she is legally authorized to perform by national laws and regulations (Besner et al., 2006). This means it is necessary to clarify and understand each team member's role, which is largely dependent upon obtaining knowledge about each other's skills and abilities (Dieleman et al., 2004). Additionally, lack of understanding of SOP within primary healthcare teams is pointed out as a source of conflict (Brown et al., 2011).

Doctors' and nurses' perspective of the role of nurse practitioners in primary care, was reviewed in 2007 (Main et al., 2007). Lack of knowledge concerning capabilities and professional boundaries of nurse practitioners was considered an important barrier. Because of these barriers nurse practitioners were not capable of fulfilling their potential. *McInnes et al. (2016)* also concluded that a lack of clearly defined roles limited collaboration between general practitioners (GPs) and general practice registered nurses (GPRNs). GPs were not well acquainted with GPRNs' intended SOP. Consequently, GPRNs' knowledge, skills and experience were underutilized. Regardless of whether or not a GP is well acquainted with nurses' SOP, the potential benefits of IPC will not be fully realized if a GP is reluctant to delegate. It is shown that territorialism exhibited by GPs

Scope of practice:

Encompasses the full range of activities for which a health professional is educated and legally authorized to perform.

impaired collaboration between GPs and nurses in general practice (Halcomb et al., 2014; McInnes et al., 2015).

Similar to human medicine it is possible that veterinarians are not fully aware of their veterinary nurses' (VNs) capabilities and/or are unwilling to delegate. This can result in impairment of the full range of veterinary nursing care. On the other hand, veterinarians might have the opinion that laws lack clarity on whether VNs are allowed to perform certain medical tasks. Consequently, risk of inappropriate delegation can arise (e.g. castration).

There are indications of underutilization as well as inappropriate utilization of Dutch VNs in veterinary practice. The Royal Dutch Society of Veterinary Medicine (KNMvD) received multiple questions with regard to effective utilization of Dutch VNs. It is believed that before developing policy recommendations, one needs to map the VNs current and intended SOP. Currently there is little to no published research concerning veterinary nursing practice in the Netherlands. Therefore, the primary aim of this study was to explore Dutch VNs' current SOP as perceived by VNs and practice owners (POs). Differences between reported and intended SOP were identified and discussed.

2. Material and methods

2.1 Literature study

SOP refers to the range of activities a health professional is educated and legally authorized to perform. A literature study was conducted to explore Dutch VNs' intended SOP. Relevant legal texts were screened and analyzed in-depth if a more comprehensive understanding was required. SOP in context of IPC was investigated. Various results were compared with international circumstances as well as human healthcare. Articles were searched using Google Scholar, Scopus and PubMed databases. Search terms included 'scope of practice', 'veterinary nurse', 'veterinary technician', 'para veterinary', 'interprofessional collaboration', 'veterinary team', 'Netherlands', 'Dutch', 'veterinary surgeon', 'veterinary practitioner', 'health care' and 'legislation'. Research papers were judged for suitability by reading the abstracts. If considered relevant, information was included in the study.

2.2 Qualitative analysis: In-depth interviews

Qualitative research provides additional information on human decisions and actions, and makes it possible to understand the associated context (Myers, 2013). To the best of our knowledge, this was the first study addressing the SOP of Dutch VNs. Therefore it was believed that conducting qualitative research was essential in order to develop a valid quantitative instrument. Also it would contribute to understanding the results of quantitative research. It was assumed that a deeper insight in the subject would be developed if not only registered veterinary nurses (RVNs) but also POs would be included in the qualitative study.

Participants

Dutch RVNs and POs were invited to take part in the qualitative study. It was assumed that an initial analysis sample of at least 4 interviews per research group would represent adequate diversity (Francis et al., 2010). On behalf of the researcher, The Dutch Association of Veterinary Nurses (Vedias) forwarded the project information to RVNs using their social media platform. A total of 18 female RVNs contacted the lead researcher that they were willing to cooperate. All 18 RVNs worked at a primary care small animal practice. Practices were located in the province of North Holland, South Holland, North Brabant, Flevoland and Gelderland. Selection of interviewees

was based on geographic area, practice size and years of experience in order to create as much diversity as possible. All RVNs were female and ranged in years of experience from 2 to 17 years. The lead researcher accessed her personal network to recruit POs. POs were approached via their clinic website (email or online contact form) until data saturation was achieved. They were chosen based on their practice size and location. With the exception of one female all POs were males. Practices were located in the province of North Holland, South Holland, North Brabant and Flevoland.

Data collection

Semi-structured interviews were developed to explore relevant aspects of RVNs' SOP (Leech et al., 2002). Questions and prompts aimed at gaining an understanding of how RVNs' SOP is perceived by participants. The interview questions differed between the two research groups. The aim of the study was communicated to the participants. Participants were also informed about the researchers' position as a veterinary student. All interviews were conducted by telephone because of cost-effectiveness. In addition, compared to in-person interviewing, telephone interviewing may reduce the tendency of giving socially-desirable answers (Musselwhite et al., 2007). All interviews were audio-recorded and conducted by the same researcher. Audio-records were immediately transcribed by the researcher after completing an interview. Data collection and data analyses happened simultaneously. After interviewing 7 RVNs and 5 POs the answers became repetitious and no new information or opinions emerged. Consequently, it was decided that data saturation was achieved. In order to maintain confidentiality a number was assigned to each participant.

Data analyses

Interview transcripts were systematically analyzed using a few key features of grounded theory (Glaser & Strauss, 1967). Grounded theory method was chosen because of its known usefulness in studying subjects where there is limited previous research (Engward, 2013). The Glaserian Grounded Theory variant was applied because this variant is considered more manageable for novice researchers (Glaser, 1978; Urquhart et al., 2010). During open coding, transcripts were read line by line and words, sentences or paragraphs were coded. Produced codes were constantly compared and adjusted when needed (Böhm, 2004; Meyers, 2013; Urquhart et al., 2010). Subsequently all codes were grouped into subcategories and eventually core categories (selective coding). Explicit relationships between core categories (theoretical coding) were not defined. Substantive codes were used as themes to describe the data (Hernandez, 2009). Memos were used to constantly reflect the data.

2.3 Quantitative analysis: Questionnaires

Because of time- and cost-effectiveness, quantitative data were collected by utilizing online questionnaires. Furthermore, online surveys have the ability to reach a great number of participants (Kayam, 2012). It was assumed that a deeper insight in the subject would be developed if not only RVNs but also POs would be included in the quantitative study.

Questionnaires

Two different questionnaires were designed using the online survey tool SurveyMonkey (Appendix A). The information gathered through interviews served as content for the questionnaires' design. The questionnaire consisted of 18 (RVN questionnaire) and 14 (PO questionnaire) questions respectively. Both questionnaires comprised questions and statements. Level of agreement with a certain statement was rated using a 5-point Likert-scale (Likert, 1932), ranging from 1

(agreed) to 5 (disagreed). In order to avoid suggesting answers regarding certain topics, a few open-ended questions were included (Reja et al., 2003).

Distribution

In August 2017, RVNs and POs across the Netherlands were asked to complete the online survey. A web link was created to distribute the RVN questionnaire. Vedia participated in the distribution by sending the weblink to her members and posting it twice on their social media channels. An existing email address database was used to send a direct email invitation to 1108 POs. This database was provided by the KNMvD. To ensure database reliability several selection criteria were applied simultaneously. These criteria included 1) practising veterinarian, 2) practice owner, and 3) in the Netherlands. Owners of all types of practices were invited to participate. The list included some practices more than once as co-ownership of a veterinary practice is quite common in the Netherlands. Assuming co-owners' answers regarding RVNs practice policies would be comparable, duplicate values (practices) were removed using Excel. Survey reminders were sent to non-responders after 7 and 22 days. The questionnaires were open for 4 weeks.

Data analyses

Survey responses were downloaded and subsequently exported into Microsoft Excel spreadsheets. The exported data was properly formatted and transferred to SPSS. All questions, statements and possible answers were translated from Dutch to English. Descriptive statistics were used to summarize data. Most data were on ordinal scales which meant that mean and standard deviation were invalid parameters for data analysis (Jakobsson, 2004; Sullivan & Artino, 2013). The Chi-square test was used to determine whether categorical variables differed between the RVN and PO population. The $P < 0.05$ value was considered significant. Open-ended answers were grouped into categories.

3. Results

3.1 Literature study

National legislation

There are two levels of para-veterinary roles in the Netherlands: the veterinary assistant and the registered veterinary nurse (RVN). The latter has gained an official formal qualification to perform certain medical tasks (art. 3.1 Besluit diergeneeskundigen). Furthermore, they are legally accountable for their own decisions and actions.

Article 3.1 of the Veterinarians Decree (VD) provides that the Dutch RVN can carry out some veterinary activities which are in principle reserved to veterinary practitioners. The required level of veterinary supervision for each activity is determined by law (art. 3.2 Besluit diergeneeskundigen):

1. Direct supervision: The veterinary practitioner is physically present and within visual range (in the same room) of the RVN.
 - Under direct supervision, an RVN is legally able to:
 - Provide assistance in order to deliver an unborn animal (surgery excluded).
 - Assist the veterinary practitioner in neutering or fetal removal.
 - Administer veterinary drugs that are required to block pain sensation (local anesthetic) or alter consciousness (sedative or general anesthetic) (Appendix I Regeling diergeneesmiddelen).

2. Indirect supervision: The veterinary practitioner is able to respond quickly to the needs of their RVNs at all times. He or she is physically present in the building (but not necessarily in the same room) at the time the RVN undertakes the activity.
 - Under indirect supervision, an RVN is legally able to:
 - Take blood samples.
 - Treat or examine an animal in order to prevent, remove or cure a condition, disease or pain (surgery excluded).
 - Administer veterinary drugs, unless the administration is contrary to other laws (see below).

In the Netherlands several laws are relevant to the administration of veterinary drugs. The Animals act prohibits deviation from license requirements of a veterinary drug. In other words, intended drugs must be approved for that species, route of administration and medical condition(s). RVNs as well as veterinarians must comply with this legislation.

According to article 2.14-2.17 of the Veterinary medicinal products Regulation (VmpR), veterinary drugs are grouped in four different categories:

1. Free: no prescription required. No specifications regarding administration.
2. UDA: prescription from a veterinarian required. Available at a veterinarian, pharmacy or licensed supplier. Administration by veterinary practitioner, RVN or animal owner.
3. URA: prescription from a veterinarian required. Available at a veterinarian or pharmacy. Administration by veterinary practitioner, RVN or animal owner.
4. UDD: administration exclusively by veterinary practitioner.

Administration of category UDD veterinary drugs by RVNs is, in principle, prohibited (e.g. vaccines) (Boissevain & Thissen, 2011). By way of derogation from Article 2.17 of the VmpR, RVNs are allowed to administer veterinary anesthetics (as mentioned above) and antimicrobial drugs (Appendix I Regeling diergeneesmiddelen). In contrast to anesthetic drugs there are no stated conditions regarding the level of supervision during administration of antimicrobial drugs.

The VD defines 'surgery' as "a treatment of animals in which the natural coherence of living tissue would be broken" (art. 1.1). Interventions such as castrating a male animal, extraction of teeth/molars and suturing/stapling wounds are therefore considered surgery. As already established, RVNs are not authorized to perform surgery and therefore not allowed to perform these veterinary activities (Boissevain & Thissen, 2011). In July 2017 a Dutch RVN received a formal warning from The Dutch Veterinary Disciplinary board. An animal owner filed a complaint against the RVN regarding the dental treatment of the owners' dog. During the process it became apparent the RVN exceeded her powers because of the extraction of several teeth. Consequently, the complaint was partially declared well-founded (Veterinair Tuchtcollege, 2017).

United Kingdom

The United Kingdom have focused more attention on delegation to veterinary nurses than other countries (Branscombe, 2012; "Nurse clinics special feature", 2014; RCVS. Code of Professional Conduct, 2012; Robertson-Smith et al., 2010). There are major differences in veterinary nurses' education and SOP between the Netherlands and the United Kingdom. In order to become an RVN, Dutch students attend the MBO (*middelbaar beroepsonderwijs*) level 4 which takes between 3 and 4 years. After receiving the veterinary nursing qualification it is not possible to gain additional diplomas in (specific areas of) veterinary nursing (e.g. BSc or MSc degree).

In the United Kingdom students can follow different educational routes: Vocational training (further education) or higher education. Vocational training (full-time basis or apprenticeship) lasts approximately 2-3 years. After completing vocational training students receive a Level 3 Diploma. A higher education veterinary nursing degree (Bachelor or foundation) is provided at university and takes approximately 3-4 years. Both educational routes lead to registration with the Royal College of Veterinary Surgeons (RCVS). RVNs have a number of possibilities to further develop knowledge, skills or interests (e.g. MSc degree in veterinary nursing) once they are qualified. In order to stay registered it is mandatory to complete a minimum hours of continuing professional development (CPD) every three years (Robertson-Smith et al., 2010).

The SOP of RVNs in the United Kingdom is specified in Schedule 3 of the Veterinary Surgeons Act 1966. As long as they do not enter a body cavity, RVNs can carry out any medical treatment or minor surgery to all animals at the direction of a veterinarian. There are a few specific exceptions made to this schedule such as sterilization surgery (castration and spaying). Some conditions have to be met in order to legally perform the medical treatment or minor surgery. An activity can only be delegated provided that the veterinary practitioner/surgeon has confidence in the RVNs' competence. Furthermore, the RVN must be employed by that same veterinarian, or the veterinarian must act on behalf of the employer (Branscombe, 2012). The Code of Professional Conduct for Veterinary Surgeons provides guidance in interpreting various aspects of the Schedule 3 exemption (RCVS. Code of Professional Conduct, 2012).

Collaboration and the veterinary team

Over the years, it appears that the size of veterinary practices is increasing (Buzzeo, 2014; "FVE Survey of the Veterinary Profession in Europe", 2015; Robertson-Smith, 2010). Practice expansion has contributed to the development of an interprofessional veterinary team. Today, the veterinary practitioner is assisted by veterinary nurses, practice managers, accountants et cetera. Good interprofessional practice within the veterinary team is, among other things, dependent on knowledge of individual roles, responsibilities and expertise (Kinnison et al., 2014). An aspect which is also highlighted by *Patel et al. (2009)*. *Kinnison et al. (2015a)* investigated the influence of practice size on veterinary team interactions. It was demonstrated that smaller practices had higher densities of interactions than larger practices. This could indicate that larger practices have to put more effort in maintaining interaction across the whole team. However, individual team members determine themselves whether they like to interact with somebody. Therefore, efficient interactions in smaller practices are not naturally included.

Effective IPC can be challenging but also beneficial if done properly. A unified team which effectively uses each team members' unique contribution could provide more cost-effective care. Compared to veterinary nurses, the salary of a veterinary practitioner is significantly higher. Costs of interventions can therefore be reduced by delegating them to veterinary nurses. Also more veterinary appointments will be freely available for clients and their animals ("Nurse clinics special feature", 2014). Furthermore, it enables the veterinarian to focus on the complex and critical cases, which might benefit patient outcomes (Kinnison et al., 2014).

Veterinary nurse clinics are an important part of veterinary practice in the United Kingdom (Ackerman, 2015). Under the direction of the veterinarian various procedures are undertaken (e.g. weight clinics, blood sampling). Consulting nurses can provide low threshold services by giving (free) information and advice to clients. Clients might feel more comfortable to discuss their animal related issues with a nurse and, as a result, client loyalty improves. During consultations

nurses can simplify and provide guidance on complex aspects of care, which helps with client compliance. Consequently, animal well-being advances ("Nurse clinics special feature", 2014). Due to client bonding, improved compliance and possible additional sales (e.g. worming treatment), financial benefits are anticipated (Kinnison et al., 2014).

On an individual level, the quality of IPC is known to influence job satisfaction and risk of burnout. *Moore et al. (2014)* revealed that a more toxic work environment resulted in lower job satisfaction, decreased emotional energy (i.e. exhaustion) and increased withdrawal from job aspects and coworkers (cynicism). Frustration with the job, communication breakdowns, coworkers who resist change and 9 other items were related to a toxic environment. A coordinated team environment was based on 9 items such as the opportunity to provide input into clinic changes and recognition of team members' contributions to the team. It was indicated that participants felt more capable of fulfilling job expectations (professional efficiency) in a more coordinated team environment. Negative outcomes regarding exhaustion, cynicism or professional efficiency were correlated to low levels of mental and physical health, hence presence of burnout.

Individual engagement was another important team effectiveness subscale. Participants felt individually engaged by encouragement of expanding their knowledge and skills. Also feelings of being heard and appreciated resulted in higher levels of individual engagement. Consequently, an increase in job satisfaction was noted. Results suggested that higher individual engagement could reduce the risk of burnout (Moore et al., 2014). Also *Kinnison et al. (2014)* mentioned that a positive working environment is associated with reduced stress of individual team members.

In addition to exploiting the benefits, effective IPC is necessary to reduce and prevent errors. The veterinary teams of two practices were observed for 3 weeks in order to identify errors and, if possible, the underlying causes. An error was defined as "an erroneous act or omission resulting in a less than optimal or potentially adverse outcome for a patient". All observed errors were divided into 3 groups: medical errors, communication errors and lost item errors. The clinical errors involved exclusively veterinary practitioners and VNs. The majority of these errors were due to system faults, that is differences between professions (e.g. approach to veterinary care) (Kinnison et al., 2015b).

3.2 Qualitative analysis

3.2.1 Registered veterinary nurses

Division of tasks

The degree of task specialization varies among practices. The all-round employee as well as specialization of RVNs in a certain area were mentioned. RVNs described that individual preferences influence the distribution of tasks.

Some colleagues enjoy nurse consulting very much. They have the freedom to do so. (RVN7)

... She [colleague] finds it awful to do reception work. She doesn't have patience for that kind of work. If she doesn't like it, she doesn't have to do it. (RVN2)

Scope of practice boundaries

It appeared RVNs experienced SOP boundaries, both now and in the past. Frequently reported boundaries concerned legal aspects. RVNs commented they were capable to perform certain tasks, despite the fact they were not authorized by law to do so.

According to the law we're not allowed to castrate a male cat, but I can do it. I already learned it. (RVN1)

I can extract teeth. I did it at my old job. Officially I'm not allowed to do so, so that's the reason why we try to avoid it as much as possible. (RVN3)

While mentioning legislation, some feelings of doubt were expressed.

Officially we're not allowed to castrate male cats, right? I think. (RVN7)

I'm not sure if were doing something that is against the law. I'm not even sure if I'm allowed to draw blood or anything. (RVN2)

However, according to some RVNs, reallocating tasks to the nursing domain shouldn't be without limits.

Declaring an animal is in good health, I don't think an RVN should be allowed to do so. (RVN4)

I don't think I'll be needing to perform surgery. A veterinary practitioner should be undertaken that activity. (RVN5)

Supervision

Supervision means that the veterinary practitioner maintains some level of oversight after he or she delegated an activity to an RVN. RVNs described different levels of supervision which ranged from physical presence in the same room to working almost completely autonomously. Nevertheless, it was highlighted that the veterinary practitioner was continuously available for consultation. One RVN stated:

A veterinary practitioner is always around, for example in the operating room. I can always consult the veterinary practitioner if necessary. (RVN2)

Factors such as RVNs' experience as well as nature of the task influenced which level of supervision was considered sufficient.

If an RVN doesn't have much experience, he [employer] is always in the same room. (RVN4)

She [employer] stands next to me when I take a blood sample. That's because I don't have much experience in that area. I'm still learning. (RVN3)

During IV insertion or induction of anesthesia the veterinarian is physically present in the same room. (RVN6)

3.2.2 Practice owners

Knowledge about RVNs skills and abilities

With the exception of one PO/veterinary clinic, all POs declared they were approved veterinary nurse training practices. This appeared to influence their knowledge of RVNs' skills and abilities:

We host one or two veterinary nurse student(s) at all times. So I have a pretty clear picture of what they're capable of. (PO5)

I am informed regarding students' knowledge and skills because we host multiple veterinary nurse students. I see their assignments. (PO2)

Some PO participants expressed a sense of dissatisfaction with current veterinary nurse educational programs (VNEP):

I think the current level is very low. This way of training misses the point. They [nurse students] study subjects in great depth, but they're not able to tell me a dogs' normal heart or respiratory rate. (PO3)

Furthermore, some POs similarly identified that post qualification courses in order to further develop skills and interests could be useful:

My biggest concern for the veterinary nurse is, she is so smart, she might get bored. Right now there is nothing. You become a veterinary nurse and that's it. I think it could be useful to provide additional educational programs, like in the United Kingdom. It makes them [RVNs] more employable, especially in veterinary clinics that provide specialist veterinary care. (PO1)

Scope of practice boundaries

All POs did not seem to experience major problems regarding legislation. They considered themselves to be well-acquainted with legal issues:

We try to do things the way they're supposed to be done. (PO5)

At the moment I am not experiencing any problems with law practicability. (PO3)

One PO admitted:

In our clinic RVNs can castrate male cats. As long as they [RVNs] are capable and supervised by a veterinarian. I know it's officially prohibited but to me it's not a problem as long as a veterinarian is present. They [RVNs] just like to do it. (PO4)

Opinions regarding expanding RVNs' SOP differed among POs. One PO explained:

I think it's fine this way. You know what the problem is with expanding their [RVNs] SOP? You're creating a grey area. Where does it stop? (PO1)

Education appeared to be an important factor when taking SOP expansion into consideration:

We should expand their current legal SOP but it must be attended with more training. (PO2)

Taking a closer look at veterinary clinics providing specialist veterinary care, most of the times the suturing is done by an RVN. Is that a good thing or a bad thing? I think they [RVNs] are capable to do so but you must assign a quality label to it. Additional training and maintaining their skills over the course of their working lives. (PO5)

If we should expand their legal SOP? Well not right now. I am very dissatisfied with their current skill level. (PO3)

3.3 Quantitative analysis

The reported percent frequencies correspond to the “valid” percentages, that is percentages of participants who answered the particular question/statement and at the same time had an opinion on it. Unanswered questions and the ‘I don’t know’ answer (IDK) were considered missing data and were therefore not included in the calculations. The total number of missing values for each question is reported as ‘Total Frequency Missing’ (TFM).

3.3.1 Registered veterinary nurses

Participant demographics

A total of 398 RVNs participated in the quantitative study. The exact population size of RVNs in the Netherlands is unknown, therefore response rate was not calculated. Approximately 86% of the RVNs completed the entire survey. Most RVNs had between 5 and 10 years of experience (29%), closely followed by RVNs who had between 0 and 5 years of experience (28.7%) (Figure 1). With the exception of one RVN employed in a horse practice, RVNs reported they worked at a small animal (74.5%) or mixed (25.2%) practice (Appendix B, Table 1). Most of these practices provided primary care (72.1%) or a combination of primary and secondary care (23.2%) (Appendix B, Table 2).

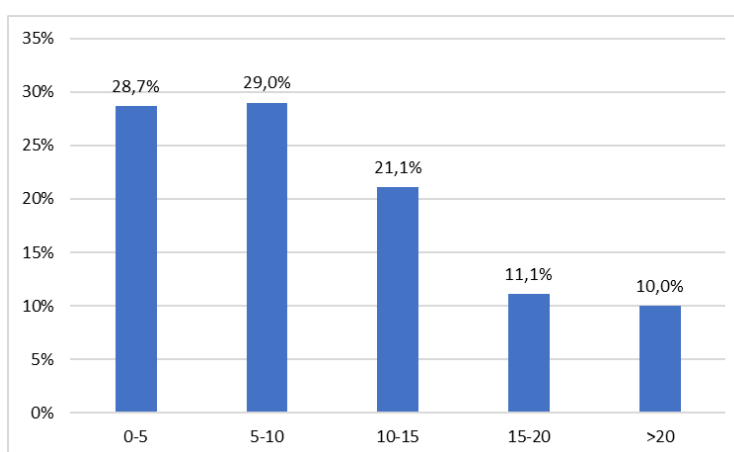


Figure 1 Distribution of years of experience, percent frequencies (N= 341, TFM= 57)

Collaborative practice within the veterinary nursing team

Slightly more than half (55.8%) of the RVNs reported to work within a veterinary nursing team where overlap of tasks exists. Almost a quarter (24.1%) of the RVNs were working in a practice where everyone executes all tasks (Figure 2). In general, clarity existed around roles and responsibilities as 55.8% agreed and 30.4% partly agreed with the statement ‘within our team of veterinary nurses it is clear to me who is responsible for which tasks’ (Appendix B, Table 3).

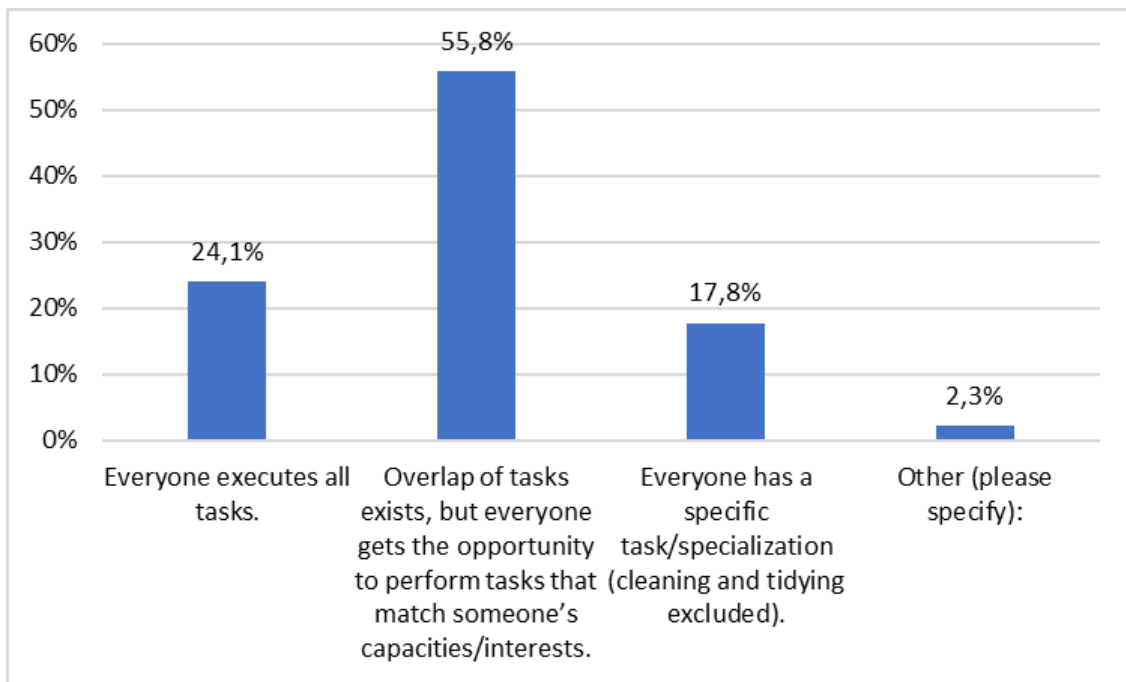


Figure 2 Distribution of tasks within the team of veterinary nurses, percent frequencies (N= 398)

Employer/practice manager

The majority (49.7%) of the RVNs felt that they were given the opportunity and confidence to develop themselves (Figure 3, nr. 1). Also, RVNs seemed to be well aware of what their employer expects of them (Figure 3, nr. 2). In total 47 individual comments were given after these two statements. The most frequently mentioned topic in these comments was the opportunity to take veterinary nursing refresher courses (mentioned 24 times). It appeared that positive views regarding these statements were associated with having space and financial support for taking part in refresher courses. Negative views were associated with the absence of these aspects.

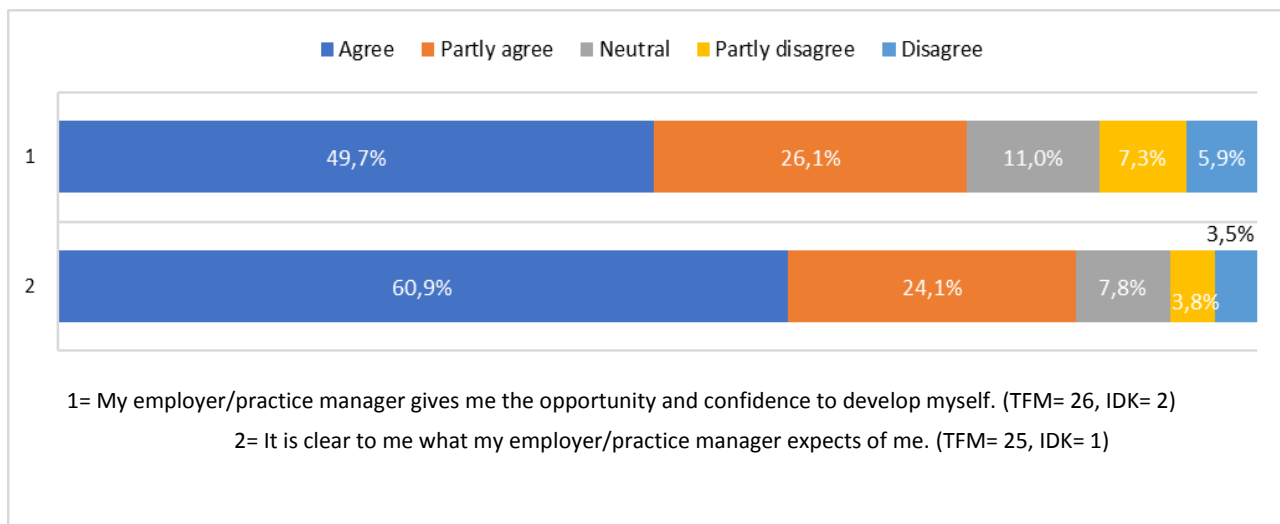


Figure 3 Statements regarding employer/practice manager, percent frequencies (N= 374)

According to the RVNs, most employers/practice managers appeared to be well aware of their RVNs' competencies (knowledge, skills) and talents (Figure 4, nr. 1). Nevertheless, RVNs tended to be less positive when asked whether they felt their knowledge and skills were optimally utilized (Figure 4, nr. 2).

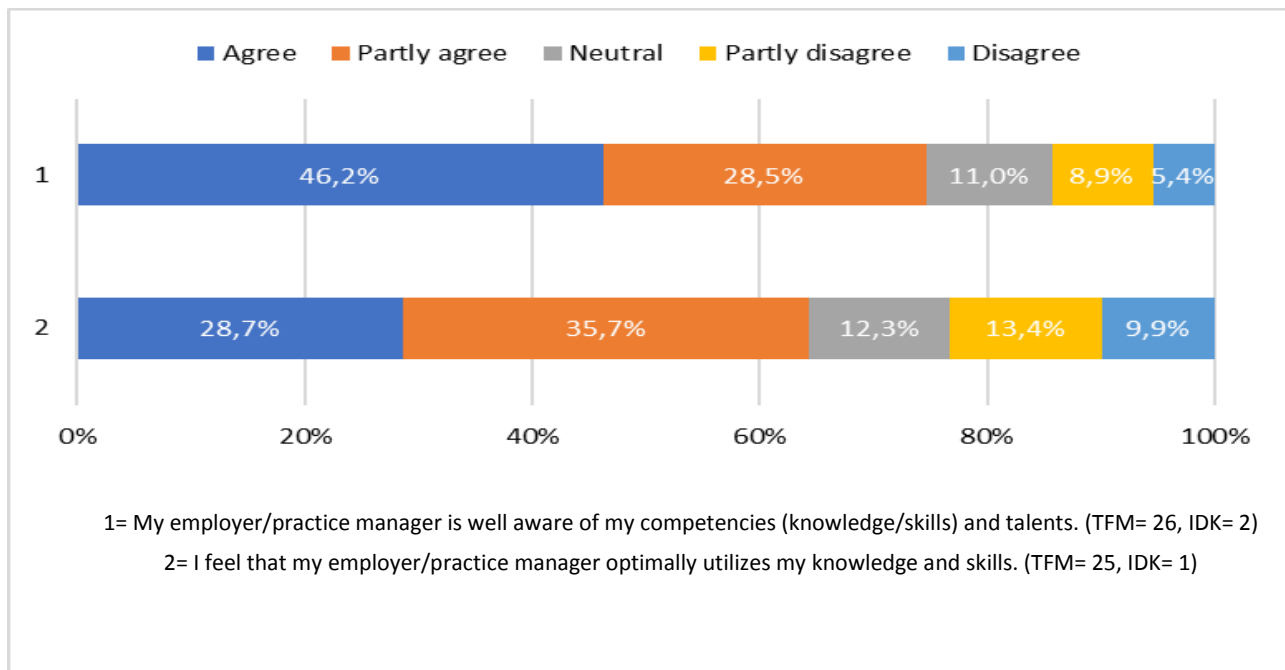


Figure 4 Statements regarding knowledge and skills, percent frequencies (N= 374)

Satisfaction with work environment

RVNs tended to be positive to the statements regarding satisfaction with work environment (Figure 5).

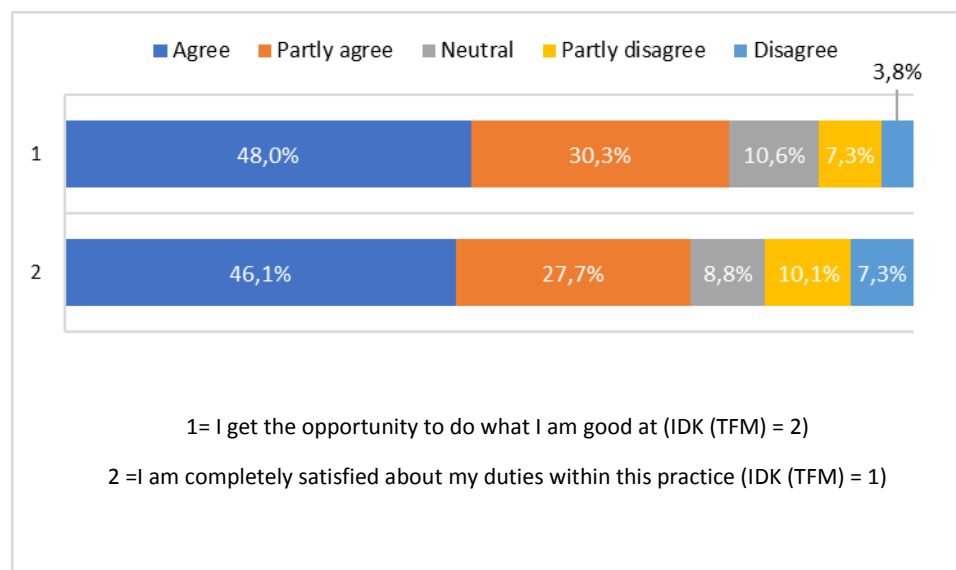


Figure 5 Statements regarding satisfaction with the working environment, percent frequencies (N=398)

However, a total of 132 RVNs responded on the question 'why are you not completely satisfied with your duties within this practice?'. The most mentioned issue was associated to the wish of performing more medical tasks (mentioned 48 times). RVNs felt they 'could do so much more' and reported that the veterinary practitioner performs tasks himself, instead of delegating it to an RVN. Some RVNs explicitly stated the veterinarian was unwilling to delegate. Another reported reason for dissatisfaction was an unclear/unequal distribution of tasks (mentioned 27 times). A desire for career development/more challenges was mentioned 21 times.

Perception of current role and corresponding position of veterinary nurses

RVNs rated their own role and position within veterinary medicine with a mean of 7.09 (on a scale of 1 to 10) and a standard deviation of 1.377 (Appendix B, Table 4).

3.3.2 Practice owners

Participant demographics

Of the 1108 POs, 163 (14.7%) participated in the quantitative study. The majority of the respondents (84%) completed the entire survey. The estimated number of FTE RVNs in their practice is specified in Figure 6. About 71% owned a small animal practice. (Appendix B, Table 5). Most POs (72.7%) reported their practice provided primary veterinary care (Appendix B, Table 6).

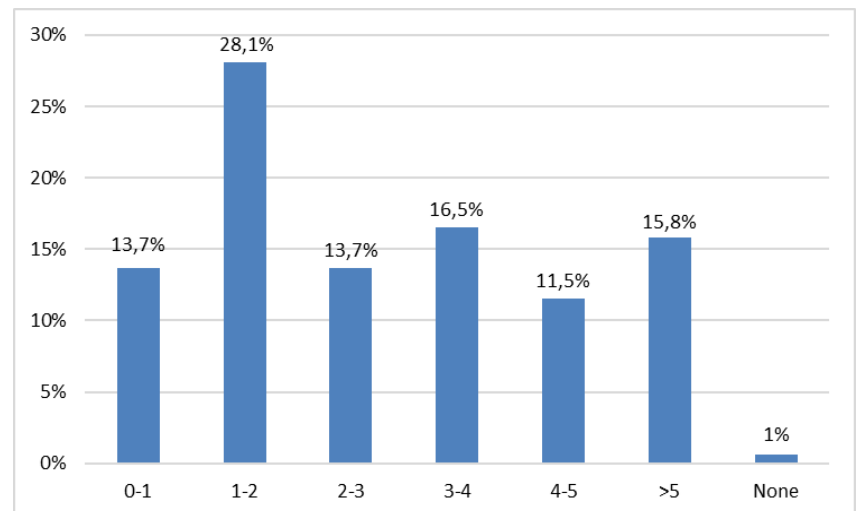


Figure 6 Estimated veterinary nurse FTE(s), percent frequencies (N= 139, TFM= 24)

Legislation

Over half of the POs (partly) agreed with the statement 'I find it unclear which activities RVNs are allowed and not allowed to perform according to the law'. This was similar to the other statements concerning law clarity (Figure 7).

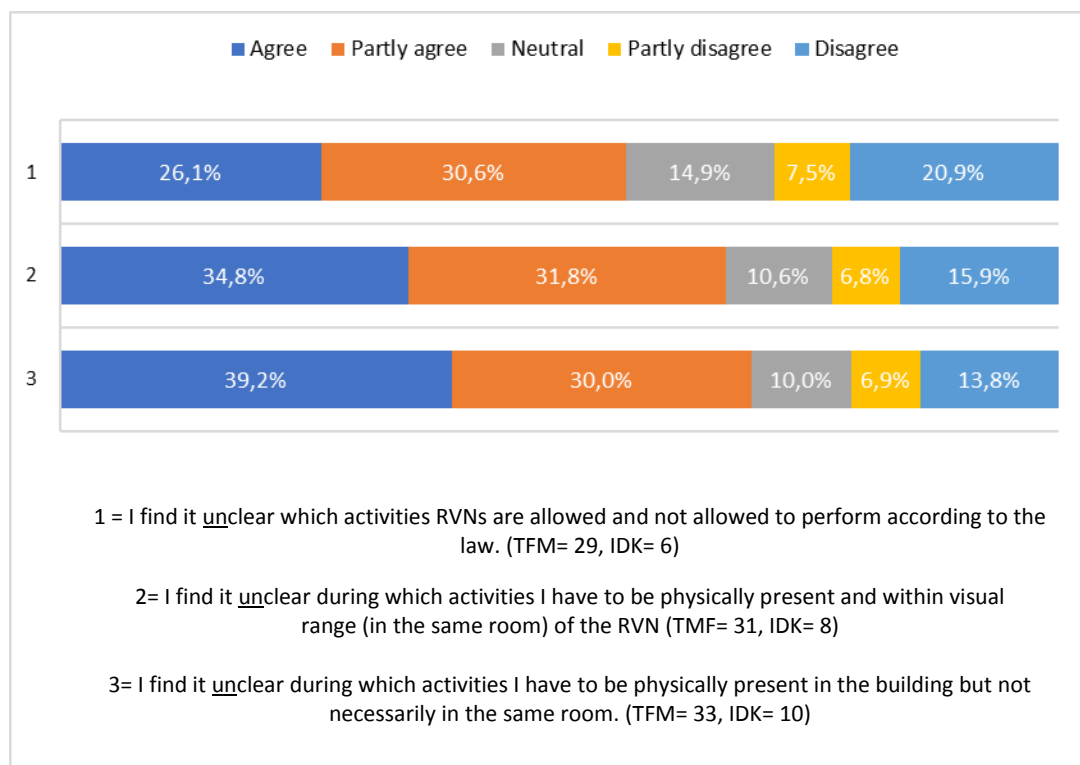


Figure 7 Statements concerning law clarity, percent frequencies (N= 140)

Over a third of POs (32%) had a neutral opinion on the statement 'RVNs should have more authorities according to the law'. Approximately 40% (partly) agreed with this statement while less

than a third (partly) disagreed (27.2%) (Figure 8). Of the 51 POs who (partly) agreed with this statement, 26 described which additional authorities RVNs should have. The most frequently mentioned activity was castrating a male cat (N=8), followed by simple dental extractions (N=5). Besides this, activities were mentioned which RVNs are already legally allowed to perform (e.g. taking a blood sample, administration of anesthetics).

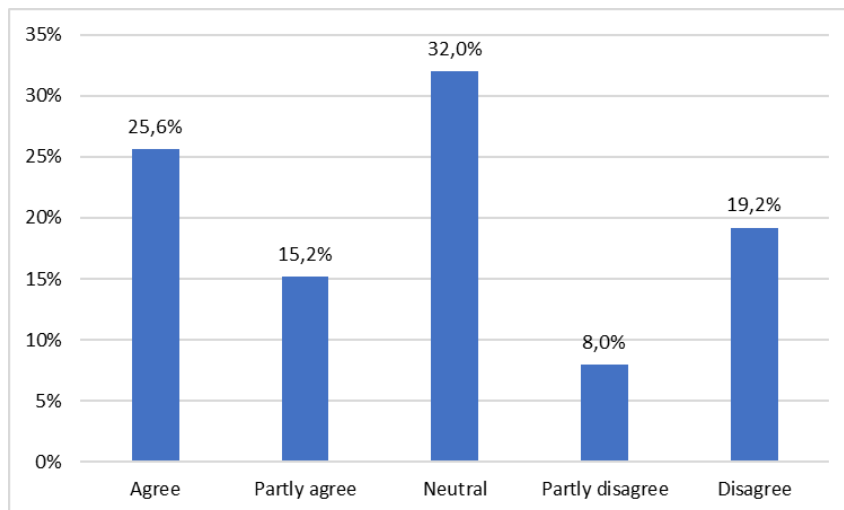


Figure 8 Answers to the statement “RVNs should have more authorities according to the law”, percent frequencies (N=140, TFM= 38, IDK= 15)

Veterinary nurse educational programs (VNEPs)

The majority of the POs (68.7%) stated that it was (partly) clear to them which skills and knowledge RVNs acquire during their education. Lack of clarity existed with less than a quarter of the POs (20.2%) (Figure 9, nr. 1) Slightly more than half (50.4%) of the POs agreed (23.7%) or partly agreed (26.7%) with the statement that the current level of VNEPs is sufficient. Approximately 22% of the POs were indifferent to this statement (Figure 9, nr. 2). There was a total agreement of 34.4% that additional and compounding VNEPs should be realized. More than a quarter of the POs (26.7%) choose the neutral response option (Figure 9, nr. 3).

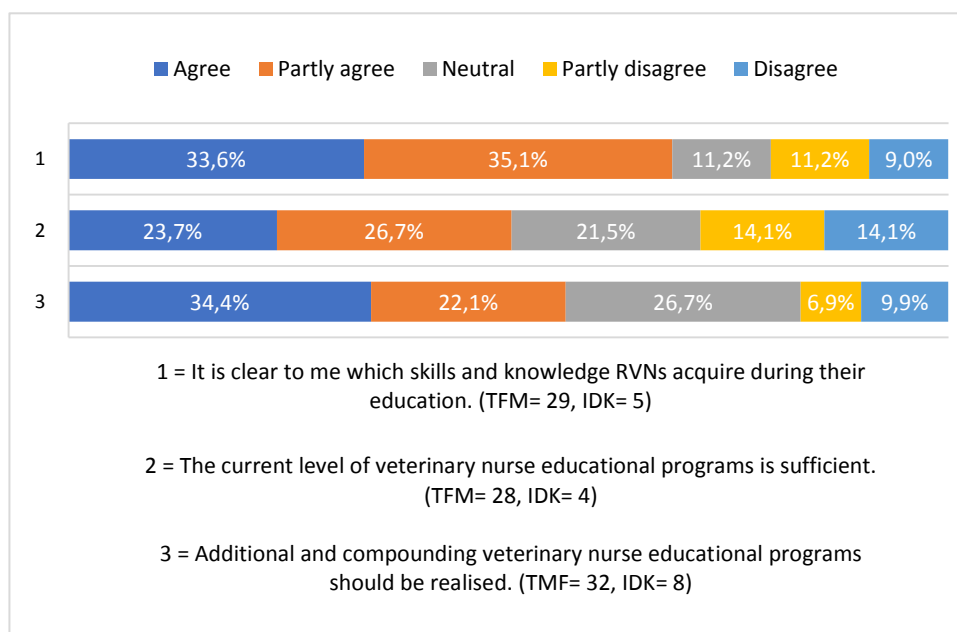


Figure 9 Statements concerning veterinary nurse educational programs, percent frequencies (N= 139)

Utilization knowledge and skills

As with the RVNs, POs were asked to indicate whether they optimally utilized their RVNs' knowledge and skills. Most of the POs (42%) partly agreed to this statement (Appendix B, Table 7). There was no statistically significant difference between the distribution of answers for the two populations ($p = 0.266$).

3.3.3 Combined results of RVNs and POs

Task delegation

RVNs and POs were provided a list of activities to identify the degree of delegation of these activities. Figure 10 to 13 summarizes the perceptions of the degree of task delegation by RVNs and POs. Table 8 (RVNs) and 9 (POs) of Appendix B shows the exact frequency percentages. Some activities were not included in the POs list because delegation of these tasks seems evident (Appendix B, Figure 1). The confidence interval was calculated for the 'Never' proportion (Appendix B, Table 8 & 9).

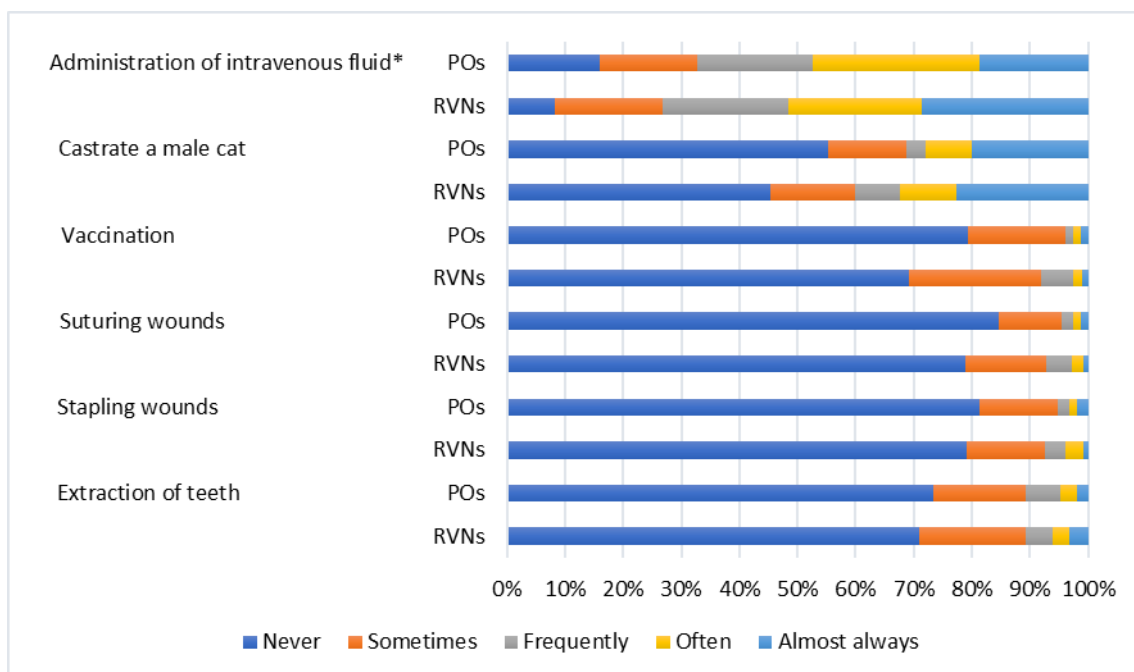


Figure 10 Degree of prohibited task delegation as perceived by RVNs (N= 362, TFM = 36) and POs (N= 150, TFM = 13), percent frequencies

* statistically significant

Figure 10 shows tasks prohibited from delegation. Compared to the RVNs, POs perception of how often RVNs did not undertake ('Never') a prohibited activity is (slightly) higher for all activities. A statistically significant difference for administration of intravenous fluid was identified ($p = 0.018$). Table 1 shows to what degree prohibited activities are still delegated to RVNs. The reported percent frequencies in this table are calculated by adding up frequencies of 'Sometimes', 'Frequently', 'Often' and 'Almost always'.

	RVNs	POs
Administration of intravenous fluid	91,7%	84,0%
Castrate a male cat	54,7%	44,7%

Vaccination	30,9%	20,7%
Suturing wounds	21,3%	15,3%
Stapling wounds	21,0%	18,7%
Extraction of teeth	29,0%	26,7%

Table 1 Prohibited activities undertaken by RVNs according to RVNs and POs, percent frequencies

*Reported percentages calculated by adding up percentages of 'Sometimes', 'Frequently', 'Often' and 'Almost always'.

It is notable that the administration of intravenous fluids' and castrate a male cat' frequency percentages are higher than the other 4 activities. This pattern is similar in both groups (Table 1).

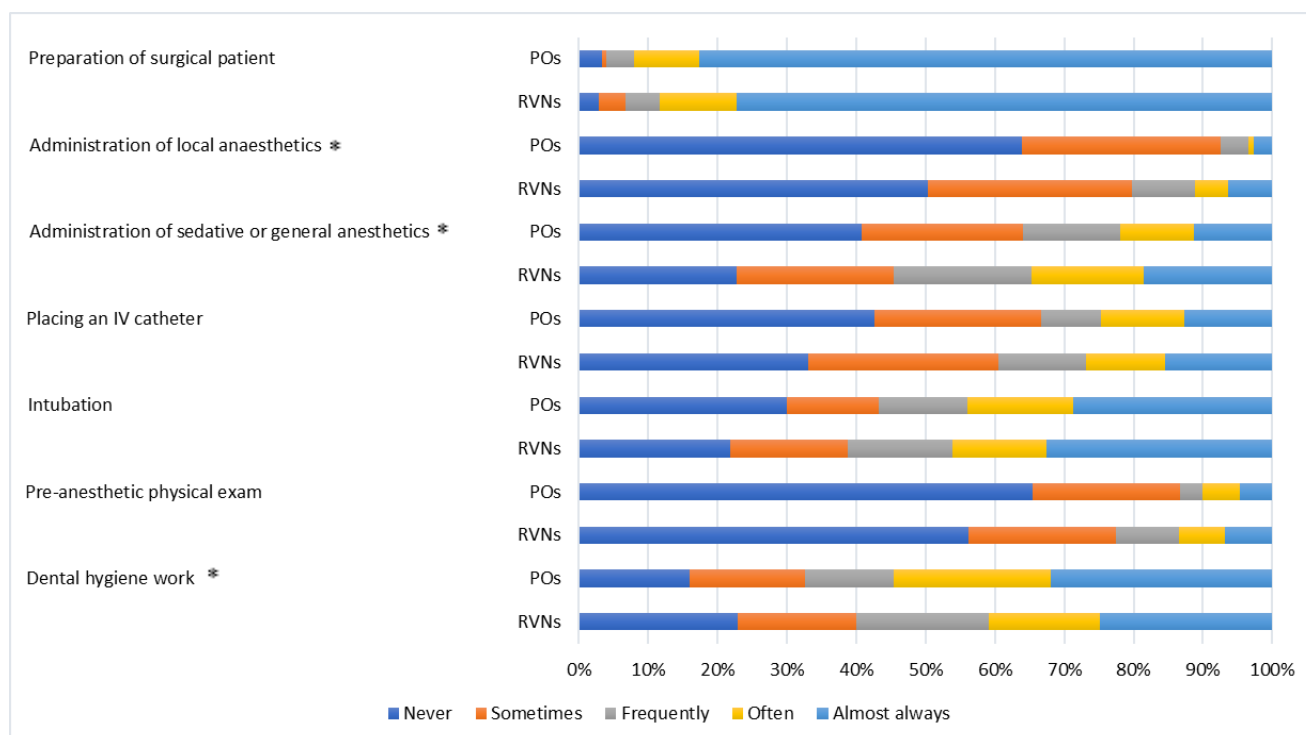


Figure 11 Degree of task delegation related to operating room procedures as perceived by RVNs (N= 362, TFM= 36) and POs (N= 150, TFM= 13), percent frequencies

* statistically significant

Regarding to operating room procedures, preparing the surgical patient accounted for the highest proportion of delegation (almost always in 77.3% of RVNs and 82.7% of POs). Activities such as pre-anesthetic physical examination and administration of local anesthetics were delegated least frequently according to both groups. There was a statistically significant difference between the two groups for dental hygiene work ($p= 0.048$), administration of sedative/general anesthetics ($p= 0.001$) and administration of local anesthetics ($p= 0.005$) (Figure 11).

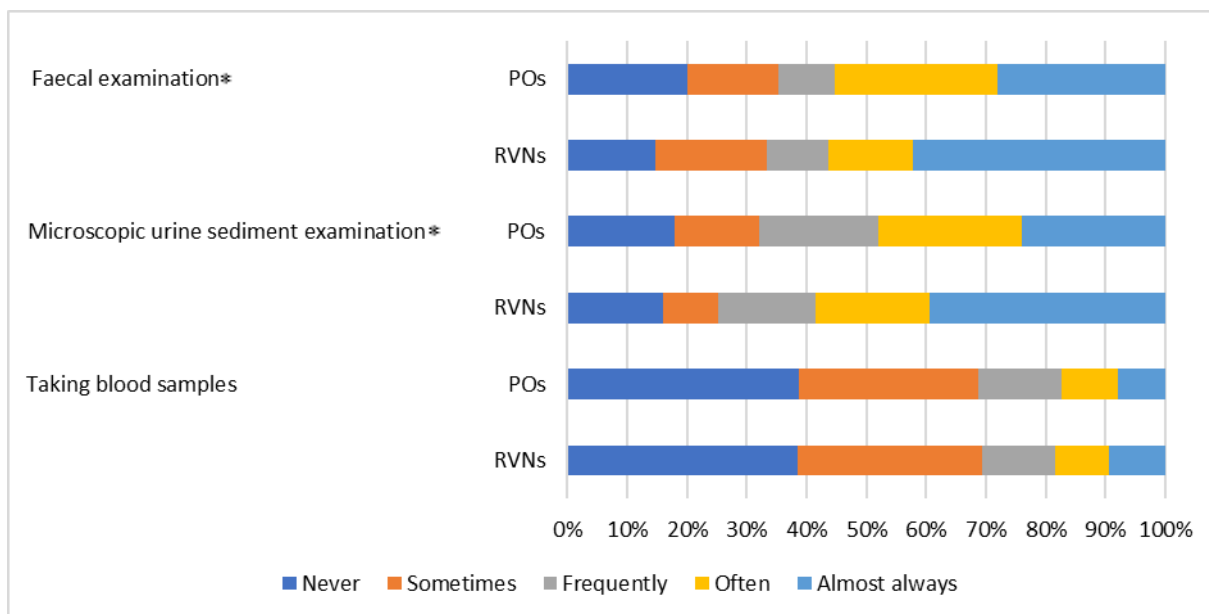


Figure 12 Degree of task delegation related to laboratory work as perceived by RVNs (N= 362, TFM = 36) and POs (N= 150, TFM = 13), percent frequencies
* statistically significant

As shown in Figure 12, RVNs and POs had a different distribution of answers regarding faecal- and microscopic urine sediment examination. Both of these differences were statistically significant ($p^{\text{faecal examination}} = 0.001$, $p^{\text{microscopic urine sediment examination}} = 0.017$).

Both RVNs and POs indicated that superficial skin scrapes as well as urinary catheterization are usually not performed by RVNs. A more routinely performed activity in consulting rooms involved providing help with weight loss. There was a statistically significant difference between the two groups for weight management ($p = 0.000$) microchipping ($p = 0.003$) and puppy check ($p = 0.028$) (Figure 13).

Supervision

RVNs and POs were asked to describe the level of supervision (in general) during each activity. Frequency percentages regarding supervision were calculated based on participants whose answers were considered reasonably reliable. That is, respondents who stated the specific activity was not performed at their clinic or was performed by another person where excluded from calculations (Appendix B, Table 10 & 11). Figure 14 shows the percentages of RVNs and POs who stated the veterinarian is/they are physically present and within visual range (in the same room) during various activities. Once delegated, it appeared that POs found it necessary to be in the same room as the RVN mainly during administration of general and local anesthetics (51.6% and 64.7% respectively). RVNs experienced this level of supervision primarily during suturing wounds (41%).

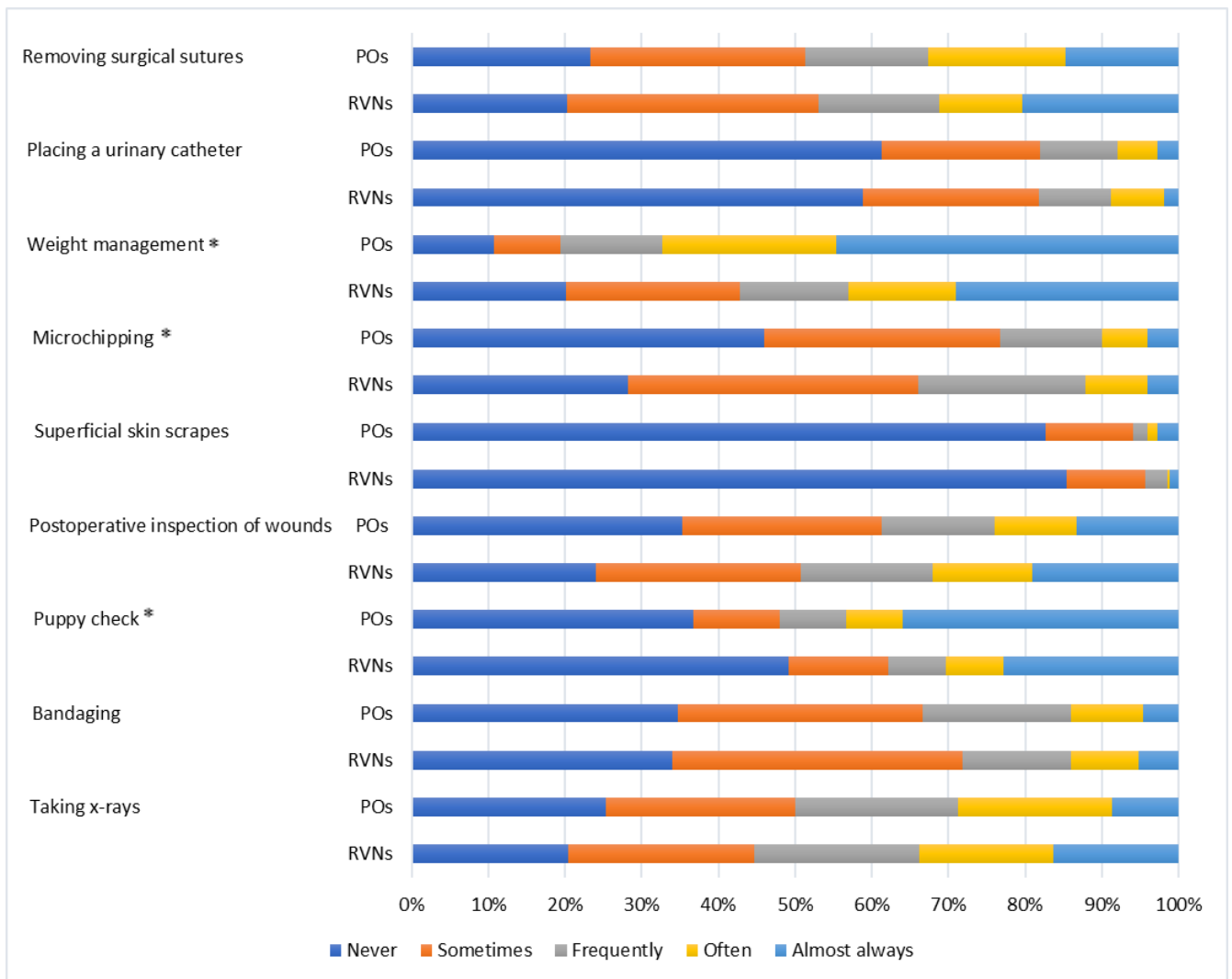


Figure 13 Degree of task delegation related to (assisting in) the consulting room as perceived by RVNs (N= 362, TFM = 36) and POs (N= 150, TFM = 13), percent frequencies
 * statistically significant

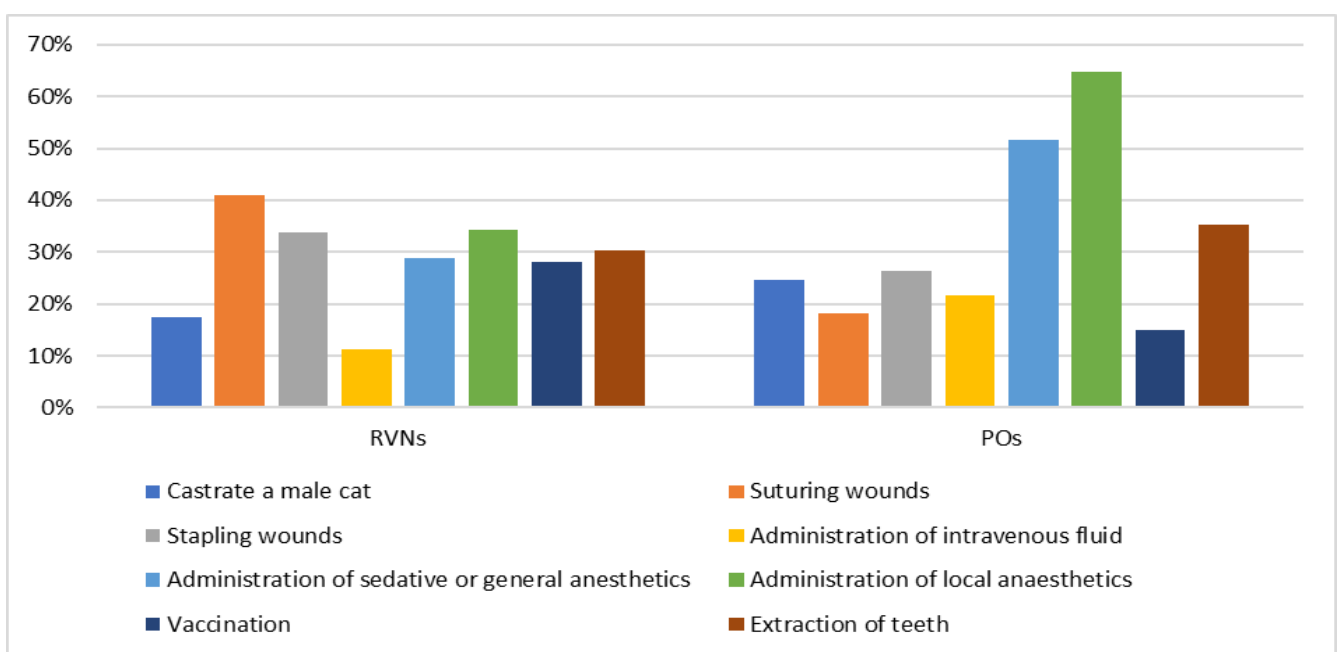


Figure 14 The veterinarian/I am physically present and within visual range (in the same room), percent frequencies

Almost half (49.7%) of the RVNs disagreed to the statement 'it happens every so often that I have to execute (one of) the tasks above while there is no veterinarian in the building'. Approximately a quarter of the RVNs (25.1%) agreed to this statement (Figure 15). RVNs were asked which activities they sometimes had to perform without a veterinarian in the building. In total 126 individual comments were given.

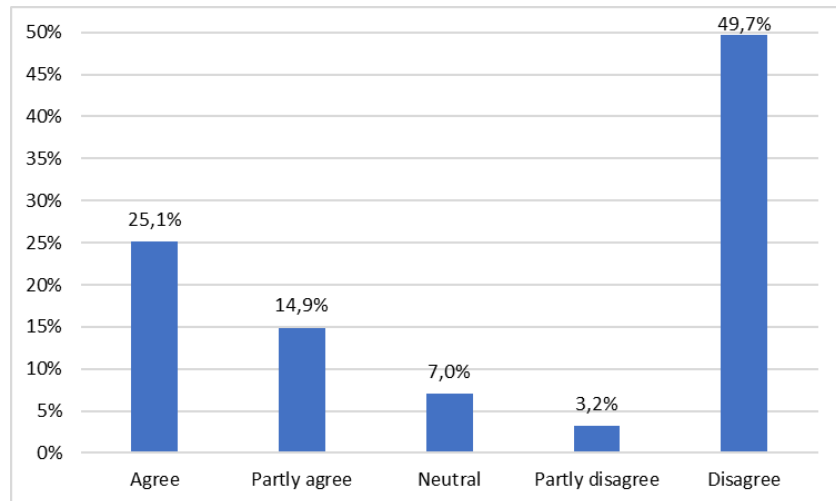


Figure 15 Answers to the statement "It happens every so often that I have to execute (one of) the tasks above while there is no veterinarian in the building (N= 342, TFM= 56, IDK= 4), percent frequencies

Removing surgical sutures

(mentioned 53 times), administration of intravenous fluids (mentioned 46 times) and postoperative inspection of wounds (mentioned 39 times) were the top three most mentioned activities. The list also included activities such as castrating a male cat and (booster) vaccination.

4. Discussion

Veterinary nurses bring essential value to veterinarians, patients and veterinary clinics in general. This study was undertaken to explore Dutch RVNs' current SOP and compare the results to their intended (full) SOP. It was assumed Dutch RVNs were under- and/or inappropriately utilized, yet no substantial evidence was present. A qualitative and quantitative analysis were conducted among both RVNs and POs in the Netherlands. Overall, this research suggests there is a gap between perceived current SOP and intended SOP of Dutch RVNs. It is also established they are working outside their SOP.

Gap between current and intended scope of practice

Today, veterinary nurses are broadly trained to perform general and medical activities at a veterinary clinic (Kwalificatiedossier mbo, Diervozorging, Crebonr. 23214, 2016). This study shows that the involvement of RVNs in medical activities was insufficient when compared to educational preparation and national legislation (art. 3.1 Besluit diergeneeskundigen). With drawing blood as an example, RVNs are legally allowed and trained to perform this activity, yet 38.4% of the RVNs and 38.7% of the POs reported this activity was never delegated to them/RVNs (Appendix B, Table 8 & 9). Underutilization was acknowledged as only 28.7% of the RVNs felt their knowledge and skills were optimally utilized (Figure 4, nr. 2). POs as well admitted that they did not optimally utilize their RVNs' knowledge and skills (28.8% totally agreed, Appendix B, Table 7). RVNs also specifically declared that veterinary practitioners frequently perform medical activities themselves, despite it included activities that were within RVNs' SOP. RVNs were frustrated by veterinarians who were unwilling to delegate and they expressed their desire for providing a broader (current) SOP. These findings were consistent with findings from previous research focused on nursing roles (Besner et al., 2006) and GPRNs' role within general practice (Halcomb et al., 2014; Mcinnes et al., 2016). *Riisgaard et al. (2017)* found that perceived 'maximal degree' of task delegation was significantly associated with overall job satisfaction of general practice staff.

These results indicate that reluctance to delegate within a veterinary practice should be open to discussion, considering the impact on collaboration and job satisfaction.

Reluctance to delegate tasks might be the result of individual decision making or complying to practice policies. Regarding individual decision making, a possible explanation for this under-delegation is that veterinarians are not aware of the activities that can be legally delegated to RVNs. As shown in Figure 7, POs experienced lack of clarity around legislation. In addition, the question about describing which additional authorities RVNs should have, was answered with activities which they are already authorized to perform. Second, because of perceived lack of clarity regarding educational preparation, some POs might underestimate of what RVNs could offer to the veterinary team (Figure 9, nr. 1). However, according to the RVNs, most employers/practice managers appeared to be well aware of their RVNs' competencies (knowledge, skills) and talents (Figure 4, nr. 1). A third possibility is that, in the opinion of POs, (their) RVNs are not competent to perform certain activities. Only 23.7% of the POs viewed the VNEP level as totally sufficient (Figure 9, nr. 2). Although results revealed a positive tendency by POs towards realization of additional and compounding VNEPs (Figure 9, nr. 3), it remains uncertain whether this will improve the under-delegation issue. It is unclear whether mentioned explanations also apply to veterinarians who are working as a salaried employee, because this group was not included in the study.

Although the RVN-'Never' proportions and individual comments support a hypothesis for a narrow SOP due to insufficient delegation by veterinarians, it is necessary to note that conclusions should be drawn in light of additional information. As seen in Appendix B, Table 10 & 11, a small part of the veterinary practices do not perform certain activities (e.g. dental hygiene work) at all, which means it is impossible to delegate them. Also when the veterinary team comprises just one veterinarian (practice owner) and one RVN, delegation of (medical) tasks is not feasible because the RVN is deemed to answer calls, make appointments, receive clients at the reception, et cetera. Furthermore, in some practices every nurse has specific tasks based on individual preferences/talents or practice policies (Figure 2). If activities are never delegated to an individual RVN, tasks might still be delegated, but to a colleague RVN. Because POs defined degree of task delegation based on their entire team of RVNs, these results might be more reliable when it comes to estimating whether or not activities are delegated to RVNs at all (Appendix B, Table 11).

RVNs and POs had a significant different distribution of answers regarding several activities. Compared to the RVNs, POs stated that their RVNs undertook puppy checks, weight management and dental hygiene work more frequently. RVNs stated they performed faecal- and microscopic urine sediment examination, microchipping, the administration of anesthetics and the administration of intravenous fluid more often than indicated by POs. It is not clear why perceived degree of delegation of these specific activities differed among both groups. Again, the role of veterinarians who are working as a salaried employee might be of influence on the results, but this is not investigated. These results slightly differ from those found by the Royal College of Veterinary Surgeons. It was demonstrated that veterinary surgeons tended to overestimate how often veterinary nurses undertook tasks in their practice, for example setting up intravenous fluids, administration of anesthetic pre-medication and in-house laboratory tests. This was also true for dental hygiene work and nursing clinics/counselling, which is similar to this study (Robertson-Smith et al., 2010).

Even though an RVN does not perform (all) medical activities frequently, it does not necessarily mean he or she felt underutilized or dissatisfied. Almost half of the RVNs (46.1%) was completely

satisfied with their duties within their current practice. Also, 48% felt they get the opportunity to do what their good at. This raises the question of what full SOP meant according to RVNs themselves, on practical, rather than on theoretical grounds. This question was addressed in a study of 14 patient care units (Besner et al., 2006). Interpretation of what working to full scope meant differed among registered nurses. It appeared that loss of some skills secondary to becoming more specialized and confident in particular areas, was accompanied by increased reports of working to full scope. *Patel et al. (2009)* highlighted that with equal levels of expertise among health professionals, risk of redundancy arises. Therefore, it was argued that focus should be on development of unique individual expertise. *Besner et al. (2006)* confirmed that overlap in roles can result in frustration among nurses. In this study, dissatisfaction regarding task distribution appeared to be associated with unclear or unequal distribution rather than role overlap. Lack of role clarity between members of a healthcare team have been identified previously in the literature (Brown et al., 2011; Dieleman et al., 2004).

Working outside scope of practice

Both RVNs and POs indicated that officially prohibited activities were delegated to RVNs. Especially administration of intravenous fluid and castration of a male cat were carried out by RVNs on a regular basis (Table 1). Additionally, RVNs pointed out that they perform these two (among other) activities, even while there is no veterinary practitioner in the building. Inappropriate delegation may be attributable to perceived lack of clarity in national laws, as the majority of the POs reported they found it (partly) unclear which activities RVNs are legally authorized to perform (Figure 7, nr. 1). Also, interview RVN participants expressed feelings of doubt when talking about legislation. However, when asked which additional authorities RVNs should have, some of the POs were well aware that RVNs are not allowed to perform these activities (e.g. castrate male cats, extract teeth). In order to identify the underlying reasons for the perceived lack of clarity around national laws, further research is required. Furthermore, POs might be convinced that (some of) their RVNs are suitably trained persons with sufficient experience to safely provide these kind of services. This kind of delegation (confidence in competence) corresponds to delegation drafted by legislation in the United Kingdom (Schedule 3, Veterinary Surgeons Act 1966).

The fact that RVNs are not allowed to administrate intravenous fluids (UDD veterinary drugs) is a well-recognized bottleneck in the Netherlands (Velthuis, 2011). These data provide support that daily working practices regarding intravenous fluids does not correspond to national legislation, and that adjustment of the law might be preferable. There is indeed evidence that part of the Dutch veterinary profession encourage expanding RVNs SOP. Nevertheless, most of the POs (32%) had a neutral opinion on this matter, possibly due to broadness of the question (Figure 8). The proportion of POs who agreed to this expansion might have been higher when specific activities (such as administration of intravenous fluid) were included in the question.

These findings on working outside SOP differ somewhat from findings of a study on nursing SOP in Australia (Schluter et al., 2011). During that study it became clear that all nurse participants were aware of legal implications and events of overstepping SOP boundaries did not emerge. This difference might be due to publication quantity (and therefore more clarity) on nursing SOP. Also, in human medicine various nursing classifications exist, therefore boundaries might be more clearly defined.

RVNs can only perform certain activities legally, if conditions regarding supervision are met. During administration of general and/or local anesthetics the veterinary practitioner is obligated to be physically present and within visual range (in the same room) of the RVN (art. 3.2 Besluit diergeneeskundigen). Although the majority of the POs stated they were indeed physically present

during administration of general and/or local anesthetics (51.6% and 64.7% respectively, Appendix B, Table 11), RVNs also performed these tasks with the veterinarian being present in another part of the building. Degree of direct supervision during these activities was even lower according to the RVNs (28.9% and 34.3% respectively, Appendix B, Table 10). As all delegated medical activities require indirect or direct supervision (art. 3.2 Besluit diergeneeskundigen), an RVN is not permitted to perform any activity, without a veterinary practitioner in the building. Yet, 25.1% of the RVNs admitted they were carrying out medical activities without physical presence of a veterinary practitioner (Figure 15). The mentioned list of performed medical activities included officially prohibited activities, hence law was infringed twice.

5. Limitations

Interviews were used to gather the qualitative data. Some pitfalls associated with conducting interviews might not have been completely avoided. Firstly, although the researcher accessed her personal network to reach POs, she had never met the interviewees in person and is considered a complete stranger. Therefore participants might have been more restrained with providing information that was considered to be 'sensitive'. As a result the topic might not be fully explored (Myers & Newman, 2007). Second, the emergence of word ambiguity during the interview process is practically inevitable (Fontana & Frey, 2002). This can become an issue during data analysis when questions and answers are misinterpreted. However, the semi-structured interview type allowed the researcher to ameliorate uncertainties. Nevertheless, since data collection and analysis was solely performed by one researcher it cannot be guaranteed that ambiguity of language did not influence data interpretation. Third, being a veterinary student with experience in the veterinary field could have been compromised the researchers' capacity to remain objective and neutral. So-called 'inside' knowledge might have contributed to the formation of pre-existing ideas and beliefs. Individuals have a natural tendency to interpret data in such a way that it will confirm and support their hypotheses (Rabin & Schrag, 1999). The researcher endeavored to avoid developing this confirmation bias by using the grounded theory approach. Grounded theory is considered an methodology which does not aim for verifying preconceived hypotheses (Glaser, 1978; Glaser & Holton, 2004). Instead the mandate is "to remain open to what is actually happening" (Glaser, 1978, p. 3). Finally, the validity of the study might be affected by social-desirability-bias. In order to reduce social-desirability-bias, interviews were conducted by telephone. Also, prior to the interviews, confidentiality was assured to participants.

Due to scarcity of time and experience the grounded theory method was not used to its full potential. The qualitative data was analyzed through coding and constant comparison but no substantive theory was formed. Consequently, qualitative data was descriptive rather than explanatory. However, the limited use of grounded theory was a well-considered decision from the beginning of the study. The researcher considered the qualitative analysis only as a tool for developing a more valid quantitative research instrument. Open coding was considered very useful because the complete dataset is analyzed, therefore important aspects are not overlooked or excluded (Jones, 2011). Selective coding was also acknowledged as contributing to a more valid questionnaire, because general as well as (more) relevant categories become visible during this phase. Theoretical coding was considered but eventually not included. The aim of theoretical coding is to "create inferential and/or predictive statements (sometimes in the form of hypotheses) about the Phenomena" (Urquhart et al., 2010, p. 367). It was believed that the theoretical coding was beyond the scope of the current exploratory study.

An online questionnaire was used to collect quantitative data. Because the RVN questionnaire was posted on multiple social media sites, the results were susceptible to data pollution (Kayam,

2012). For example, participants were able to make multiple submissions. Although the multiple responses option in SurveyMonkey was turned off for both questionnaires, it was still possible to fill out the survey from another device. Also, other persons than RVNs could potentially have filled out the survey. Since the RVN questionnaire was distributed to members of VEDIAS and through social media channels, the random sampling was limited to specific groups (e.g. registered user on Facebook).

Although two reminders were sent to improve response rate, the response rate of POs was rather low. Therefore, it is possible non-response bias was introduced, hence generalizability of the results might be influenced. This feature is common in online surveys. Especially health professionals are known as non-responders (Aerny-Perreton et al., 2015; Cook et al., 2009). *Aerny-Perreton et al. (2015)* investigated characteristics associated with non-response in physicians and nurses. The lowest initial response rate was observed among respondents with the highest mean daily workload. As owners of a veterinary practice must pay attention to additional practice issues, their workload might be heavier. Consequently, survey participation is not defined as a priority. The PO email address database might have included practices that did not employ veterinary nurses, hence responding was considered meaningless. Additionally, duplicate values (practices) were removed from the list. If the corresponding email address involved the main contact person of that specific practice, response rate is more dependent of people who are potentially less likely to participate.

RVNs employed in/owners of a farm animal/horse practice did (practically) not participate in the entire study (qualitative and quantitative part). Therefore, results are not generalizable to these types of practices. The same applies to secondary and emergency care practices. Finally, participation in the entire study was voluntarily. Therefore participants with strong opinions about the subject might have been oversampled. This could have affected the external validity of the study.

6. Conclusion, recommendations for future studies and advice

In summary, although limitations may exist, findings from this exploratory study indicate that Dutch RVNs do not work to the full scope of their practice. Compared to their intended SOP, RVNs appeared to be underutilized. They also performed activities that were outside their SOP. It is striking that RVNs are underutilized and working outside their SOP at the same time, yet no explanation is found for these opposite observations. There are many potential benefits of effective IPC in a (veterinary) healthcare team (Kinnison et al., 2014; Kinnison et al., 2015b; Mickan, 2005; Moore et al., 2015). In order to work effectively together, team members must be able to work to their full SOP. Fundamental to this challenge is role (SOP) clarity and willingness to delegate (Halcomb et al., 2014; McInnes et al., 2015; McInnes et al., 2016). Findings of this study suggest that RVNs' full SOP is dependent of more than just frequently performing medical tasks. Further research is needed to define what full SOP means according to RVNs themselves. Consequently, a reliable quantification of RVNs who feel underutilized can be made. However, RVNs send a clear signal that their knowledge and skills were not optimally utilized. There was general consensus that RVNs could contribute more to the veterinary team than what is currently being asked of them. Future investigations are recommended to determine the most important factor(s) responsible for underutilization. Until these investigations are completed, it is advised to bring these results to the attention of concerned parties. Open discussions between veterinary practitioners and (their) RVNs might create a more clear view of RVNs' role and individual skills and abilities. Although *Boissevain & Thissen (2011)* provided an overview of law practices regarding RVNs, it seemed that veterinarians are not completely familiarized with it. Today, the

overview is based on outdated legislation. Some gains might be expected if an updated version of this overview is communicated to veterinarians across the Netherlands. It might be interesting to further investigate expansion of RVNs' legal scope, possibly combined with realization of additional VNEPs. Nevertheless, it is strongly recommended to prioritize reducing the gap between RVNs' current and intended SOP in order to exploit benefits fully and avoid liability issues.

7. Acknowledgement

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Appendix A – RVN and PO questionnaire

Enquête paraveterinairen:

Inleiding

Paraveterinairen zijn onmisbare teamleden binnen een dierenarts(en)praktijk. Zij verrichten veel verschillende werkzaamheden en ondersteunen daarmee niet alleen de dierenarts, maar ook diereigenaren en patiënten.

De kennis en vaardigheden die een paraveterinair opdoet tijdens zijn of haar opleiding bepaalt voor een groot deel het toekomstig werk. Daarnaast zijn paraveterinair wettelijk bevoegd om bepaalde medische handelingen uit te voeren.

De vraag is of de deskundigheid van paraveterinair volledig wordt benut. Komen de werkzaamheden die paraveterinair uitvoeren in de praktijk overeen met de competenties die zij vanuit de opleiding hebben geleerd?

Door het invullen van de vragenlijst over uw huidige werkzaamheden levert u een belangrijke bijdrage aan dit onderzoek! Alvast bedankt voor uw medewerking!

Voordat u begint:

- Alle vragen hebben betrekking op uw **huidige** baan / de praktijk waar u **op dit moment** werkzaam bent.
- Per vraag is slechts één antwoord mogelijk (tenzij anders aangegeven).
- Wij willen u vragen te allen tijde het antwoord te kiezen dat voor u het meest van toepassing is in de dagelijkse praktijk.

1. Binnen ons team van paraveterinair:

- Voert iedereen alle taken uit.
- Is er overlap tussen de taken, maar krijgt iedereen wel de ruimte om taken uit te voeren die aansluiten bij iemands capaciteiten en interesses.
- Heeft iedereen een specifieke taak/specialisatie (met uitzondering van schoonmaak- en opruimwerkzaamheden).
- Anders nl:

2. Binnen ons team van paraveterinair is het voor mij duidelijk wie er verantwoordelijk is voor welke taken.

- Eens Deels eens Neutraal Deels oneens Oneens Weet ik niet

3. Ik ben geheel tevreden over mijn werkzaamheden binnen deze praktijk.

- Eens Deels eens Neutraal Deels oneens Oneens Weet ik niet

4. Indien u **niet** geheel tevreden bent over uw werkzaamheden binnen deze praktijk, waarom dan niet?

5. Ik krijg de kans om te doen waar ik goed in ben.

- Eens Deels eens Neutraal Deels oneens Oneens Weet ik niet

6. Mijn werkgever / praktijkmanager is goed op de hoogte van mijn competenties (kennis/vaardigheden) en talenten.

- Eens Deels eens Neutraal Deels oneens Oneens Weet ik niet

7. Ik vind dat er door mijn werkgever / praktijkmanager optimaal gebruik wordt gemaakt van mijn kennis en vaardigheden.

- Eens Deels eens Neutraal Deels oneens Oneens Weet ik niet

8. Indien u vindt dat er **geen** optimaal gebruik wordt gemaakt van uw kennis en vaardigheden, waarom dan niet?

9. Het is voor mij duidelijk wat mijn werkgever / praktijkmanager van mij verwacht.
 Eens Deels eens Neutraal Deels oneens Oneens Weet ik niet
10. Mijn werkgever geeft mij de ruimte en het vertrouwen om mijzelf verder te ontwikkelen.
 Eens Deels eens Neutraal Deels oneens Oneens Weet ik niet
11. Geef aan in welke mate u in opdracht van uw werkgever / de dierenarts onderstaande taken uitvoert:

Toelichting: De vraag is in hoeverre u onderstaande taken met enige zelfstandigheid uitvoert. De dierenarts kan daarbij bijvoorbeeld in dezelfde ruimte of elders in het pand aanwezig zijn. Het gaat dus niet om het assisteren van de dierenarts bij onderstaande taken.

Als (een aantal van) de onderstaande taken sowieso niet worden uitgevoerd in de praktijk waar u werkt vult u 'nooit' in. Bij vraag 9 kunt u aangeven welke taken niet van toepassing zijn in uw praktijk.

- | | | | | | |
|---|--------------------------------|-------------------------------|-------------------------------------|-------------------------------|---------------------------------------|
| Bloed afnemen | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Gebitten reinigen | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Röntgenfoto's maken | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Urinesediment onder de microscoop beoordelen. | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Verbanden aanleggen | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Pre-anesthetisch onderzoek | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Intubereren | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Katers castreren | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Wonden hechten | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Wonden nieten | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Puppyconsult | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Operatiewonden controleren | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Oppervlakkige huid-afkrabsels maken | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Baliewerkzaamheden | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |

(cliënten ontvangen,
telefoon beantwoorden,
medicijnen klaarmaken
en meegeven,
adviezen geven etc.)

Braunules plaatsen Nooit Soms Regelmatig Vaak Bijna altijd

Infuusvloeistof aansluiten Nooit Soms Regelmatig Vaak Bijna altijd

Algemene verdoving (premedicatie, inductie, onderhoud) toedienen Nooit Soms Regelmatig Vaak Bijna altijd

Plaatselijk verdoving toedienen Nooit Soms Regelmatig Vaak Bijna altijd

Vaccineren Nooit Soms Regelmatig Vaak Bijna altijd

Chippen Nooit Soms Regelmatig Vaak Bijna altijd

Extractie tanden/kiezen Nooit Soms Regelmatig Vaak Bijna altijd

Eigenaren begeleiden bij het afvallen van hun dier Nooit Soms Regelmatig Vaak Bijna altijd

Operaties voorbereiden (patiënt scheren/wassen/positioneren) Nooit Soms Regelmatig Vaak Bijna altijd

Urinekatheter plaatsen Nooit Soms Regelmatig Vaak Bijna altijd

Dieren in de opname verzorgen/monitoren Nooit Soms Regelmatig Vaak Bijna altijd

Medicijnvoorraad bijhouden (bestellen) Nooit Soms Regelmatig Vaak Bijna altijd

Ontlasting onderzoeken Nooit Soms Regelmatig Vaak Bijna altijd

Paraveterinair spreekuur Nooit Soms Regelmatig Vaak Bijna altijd

Hechtingen verwijderen Nooit Soms Regelmatig Vaak Bijna altijd

Ruimte voor toelichting:

12. Geef per onderdeel aan welke toezichthoudende rol de dierenarts in het algemeen vervult nadat hij/zij onderstaande handelingen aan u heeft overgedragen.

- | | |
|-------------------------------|--|
| Bloed afnemen | <input type="checkbox"/> De dierenarts is altijd in dezelfde ruimte aanwezig.
<input type="checkbox"/> De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig.
<input type="checkbox"/> Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit.
<input type="checkbox"/> Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd. |
| Gebitten reinigen | <input type="checkbox"/> De dierenarts is altijd in dezelfde ruimte aanwezig.
<input type="checkbox"/> De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig.
<input type="checkbox"/> Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit.
<input type="checkbox"/> Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd. |
| Röntgenfoto's maken | <input type="checkbox"/> De dierenarts is altijd in dezelfde ruimte aanwezig.
<input type="checkbox"/> De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig.
<input type="checkbox"/> Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit.
<input type="checkbox"/> Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd. |
| Verbanden aanleggen | <input type="checkbox"/> De dierenarts is altijd in dezelfde ruimte aanwezig.
<input type="checkbox"/> De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig.
<input type="checkbox"/> Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit.
<input type="checkbox"/> Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd. |
| Pre-anesthetisch
Onderzoek | <input type="checkbox"/> De dierenarts is altijd in dezelfde ruimte aanwezig.
<input type="checkbox"/> De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig.
<input type="checkbox"/> Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit.
<input type="checkbox"/> Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd. |
| Intubereren | <input type="checkbox"/> De dierenarts is altijd in dezelfde ruimte aanwezig.
<input type="checkbox"/> De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig. |

- Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit.
- Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd.
- Katers castreren
- De dierenarts is altijd in dezelfde ruimte aanwezig.
- De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig.
- Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit.
- Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd.
- Wonden hechten
- De dierenarts is altijd in dezelfde ruimte aanwezig.
- De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig.
- Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit.
- Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd.
- Wonden nieten
- De dierenarts is altijd in dezelfde ruimte aanwezig.
- De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig.
- Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit.
- Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd.
- Operatiewonden controleren
- De dierenarts is altijd in dezelfde ruimte aanwezig.
- De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig.
- Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit.
- Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd.
- Oppervlakkige huid-afkrabsels maken
- De dierenarts is altijd in dezelfde ruimte aanwezig.
- De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig.
- Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit.
- Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd.
- Braunules plaatsen
- De dierenarts is altijd in dezelfde ruimte aanwezig.
- De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig.

- | | |
|--|---|
| | <input type="checkbox"/> Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit. |
| | <input type="checkbox"/> Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd. |
| Infuusvloeistof aansluiten | <input type="checkbox"/> De dierenarts is altijd in dezelfde ruimte aanwezig. |
| | <input type="checkbox"/> De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig. |
| | <input type="checkbox"/> Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit. |
| | <input type="checkbox"/> Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd. |
| Algemene verdoving (premedicatie, inductie, onderhoud) toedienen | <input type="checkbox"/> De dierenarts is altijd in dezelfde ruimte aanwezig. |
| | <input type="checkbox"/> De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig. |
| | <input type="checkbox"/> Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit. |
| | <input type="checkbox"/> Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd. |
| Plaatselijke verdoving toedienen | <input type="checkbox"/> De dierenarts is altijd in dezelfde ruimte aanwezig. |
| | <input type="checkbox"/> De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig. |
| | <input type="checkbox"/> Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit. |
| | <input type="checkbox"/> Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd. |
| Vaccineren | <input type="checkbox"/> De dierenarts is altijd in dezelfde ruimte aanwezig. |
| | <input type="checkbox"/> De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig. |
| | <input type="checkbox"/> Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit. |
| | <input type="checkbox"/> Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd. |
| Chippen | <input type="checkbox"/> De dierenarts is altijd in dezelfde ruimte aanwezig. |
| | <input type="checkbox"/> De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig. |
| | <input type="checkbox"/> Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit. |
| | <input type="checkbox"/> Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd. |
| Extractie | <input type="checkbox"/> De dierenarts is altijd in dezelfde ruimte aanwezig. |

- tanden/kiezen
- De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig.
 - Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit.
 - Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd.
- Operaties voorbereiden (patiënt scheren/wassen/positioneren)
- De dierenarts is altijd in dezelfde ruimte aanwezig.
 - De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig.
 - Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit.
 - Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd.
- Urinekatheters plaatsen
- De dierenarts is altijd in dezelfde ruimte aanwezig.
 - De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig.
 - Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit.
 - Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd.
- Hechtingen verwijderen
- De dierenarts is altijd in dezelfde ruimte aanwezig.
 - De dierenarts staat er niet altijd naast, maar hij/zij is wel in het pand aanwezig.
 - Niet van toepassing, mijn collega paraveterinair of de dierenarts voert deze taak uit.
 - Niet van toepassing, in onze praktijk wordt deze handeling sowieso niet uitgevoerd.

Ruimte voor toelichting:

13. Het komt wel eens voor dat ik (één van) de bovenstaande taken moet uitvoeren terwijl er geen dierenarts in het pand aanwezig is.
- Eens Deels eens Neutraal Deels oneens Oneens Weet ik niet
14. Zo ja, om welke taken gaat het dan?
15. Als u de huidige positie en bijbehorende rol van paraveterinair een rapportcijfer zou moeten geven, wat zou dat dan zijn? (op een schaal van 1 tot 10, waarbij 1 de laagste en 10 de hoogste waardering is).

Toelichting: *in de huidige positie legt de paraveterinair verantwoordelijkheid af aan de dierenarts / werkgever. Ook heeft de paraveterinair een eigen verantwoordelijkheid en vallen zij net als dierenartsen onder het veterinaire tuchtcollege. In de wet (besluit diergeneeskundigen) is vastgelegd welke diergeneeskundige handelingen door*

paraveterinair wel en niet mogen worden uitgevoerd. Hoe hoger het cijfer dat u geeft, hoe meer u tevreden bent over deze positie van paraveterinair binnen de diergeneeskunde.

Cijfer 1 2 3 4 5 6 7 8 9 10

Ruimte voor toelichting:

16. Hoeveel jaar werkervaring heeft u?

- 0-5
- 5-10
- 10-15
- 15-20
- >20

17. In wat voor soort praktijk bent u op dit moment werkzaam?

- Gezelschapsdieren
- Landbouwhuisdieren
- Paarden
- Gemengd

18. Welke zorg wordt in deze praktijk aangeboden?

- Eerstelijns
- Tweedelijns (op verwijzing)
- Eerstelijns en tweedelijns
- Uitsluitend spoedeisende hulp (spoedkliniek)

Enquête praktijkeigenaren:

Inleiding

Het takenpakket van een paraveterinair is afhankelijk van onder meer het beroepscompetentieprofiel en de huidige wet- en regelgeving. Daarnaast heeft het beleid binnen een dierenarts(en)praktijk invloed op de rol- en taakverdeling.

Hoe zet u uw paraveterinair zo optimaal mogelijk in? Ervaart u daarbij knelpunten met betrekking tot de wet of de opleiding?

Door het invullen van de vragenlijst over de huidige werkzaamheden van paraveterinair in uw praktijk levert u een belangrijke bijdrage aan dit onderzoek! Alvast bedankt voor uw medewerking!

Voordat u begint:

- *Alle vragen hebben betrekking op de praktijk waar u **op dit moment** (mede)eigenaar van bent.*
- *Per vraag is slechts één antwoord mogelijk (tenzij anders aangegeven).*
- *Wij willen u vragen te allen tijde het antwoord te kiezen dat voor u het meest van toepassing is in de dagelijkse praktijk.*

1. Ik benut de kennis en vaardigheden van mijn paraveterinair optimaal.

Eens Deels eens Neutraal Deels oneens Oneens Weet ik niet

2. Geef aan in welke mate u onderstaande taken delegeert aan uw (team van) paraveterinair(en):

Toelichting: in plaats van dat u zelf de taken uitvoert, draagt u deze over aan uw paraveterinair(en). Zij voeren deze met enige zelfstandigheid en onder uw toezicht uit.

Indien (een aantal van) de onderstaande taken sowieso niet in uw praktijk worden uitgevoerd vult u 'nooit' in. Bij vraag 3 kunt u aangeven welke taken niet van toepassing zijn in uw praktijk.

- | | | | | | |
|---|--------------------------------|-------------------------------|-------------------------------------|-------------------------------|---------------------------------------|
| Bloed afnemen | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Gebitten reinigen | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Röntgenfoto's maken | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Urinesediment onder de microscoop beoordelen. | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Verbanden aanleggen | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Pre-anesthetisch onderzoek | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Intubereren | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Katers castreren | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Wonden hechten | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Wonden nieten | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Puppyconsult uitvoeren | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Operatiewonden controleren | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Oppervlakkige huid-afkrabsels maken | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Braunules plaatsen | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Infuusvloeistof aansluiten | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |
| Algemene verdoving | <input type="checkbox"/> Nooit | <input type="checkbox"/> Soms | <input type="checkbox"/> Regelmatig | <input type="checkbox"/> Vaak | <input type="checkbox"/> Bijna altijd |

(premedicatie/inductie/onderhoud) toedienen.

Plaatselijke verdoving toedienen Nooit Soms Regelmatig Vaak Bijna altijd

Vaccineren Nooit Soms Regelmatig Vaak Bijna altijd

Chippen Nooit Soms Regelmatig Vaak Bijna altijd

Tanden/kiezen extraheren Nooit Soms Regelmatig Vaak Bijna altijd

Eigenaren begeleiden bij het afvallen van hun dier Nooit Soms Regelmatig Vaak Bijna altijd

Operaties voorbereiden (patiënt scheren/wassen etc.) Nooit Soms Regelmatig Vaak Bijna altijd

Urinekatheters plaatsen Nooit Soms Regelmatig Vaak Bijna altijd

Ontlasting onderzoeken Nooit Soms Regelmatig Vaak Bijna altijd

Hechtingen verwijderen Nooit Soms Regelmatig Vaak Bijna altijd

Ruimte voor toelichting:

3. Geef per onderdeel aan welke toezichhoudende rol u in het algemeen vervult nadat u onderstaande handelingen heeft overgedragen aan uw paraveterinair(en):

Bloed afnemen Ik ben fysiek in dezelfde ruimte aanwezig.
 Ik ben in het praktijkpand aanwezig en kan vragen beantwoorden of direct ingrijpen mocht dat nodig zijn.
 Deze handeling voer ik vrijwel altijd zelf uit.
 Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit.

Gebitten reinigen Ik ben fysiek in dezelfde ruimte aanwezig.
 Ik ben in het praktijkpand aanwezig en kan vragen beantwoorden of direct ingrijpen mocht dat nodig zijn.
 Deze handeling voer ik vrijwel altijd zelf uit.
 Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit.

Röntgenfoto's maken Ik ben fysiek in dezelfde ruimte aanwezig.

- Ik ben in het praktijkpand aanwezig en kan vragen. beantwoorden of direct ingrijpen mocht dat nodig zijn.
- Deze handeling voer ik vrijwel altijd zelf uit.
- Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit.
- Verbanden aanleggen
- Ik ben fysiek in dezelfde ruimte aanwezig.
- Ik ben in het praktijkpand aanwezig en kan vragen beantwoorden of direct ingrijpen mocht dat nodig zijn.
- Deze handeling voer ik vrijwel altijd zelf uit.
- Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit.
- Pre-anesthetisch onderzoek
- Ik ben fysiek in dezelfde ruimte aanwezig.
- Ik ben in het praktijkpand aanwezig en kan vragen. beantwoorden of direct ingrijpen mocht dat nodig zijn.
- Deze handeling voer ik vrijwel altijd zelf uit.
- Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit.
- Intuberen
- Ik ben fysiek in dezelfde ruimte aanwezig.
- Ik ben in het praktijkpand aanwezig en kan vragen. beantwoorden of direct ingrijpen mocht dat nodig zijn.
- Deze handeling voer ik vrijwel altijd zelf uit.
- Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit.
- Katers castreren
- Ik ben fysiek in dezelfde ruimte aanwezig.
- Ik ben in het praktijkpand aanwezig en kan vragen beantwoorden of direct ingrijpen mocht dat nodig zijn.
- Deze handeling voer ik vrijwel altijd zelf uit.
- Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit.
- Wonden hechten
- Ik ben fysiek in dezelfde ruimte aanwezig.
- Ik ben in het praktijkpand aanwezig en kan vragen. beantwoorden of direct ingrijpen mocht dat nodig zijn.
- Deze handeling voer ik vrijwel altijd zelf uit.
- Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit.
- Wonden nieten
- Ik ben fysiek in dezelfde ruimte aanwezig.
- Ik ben in het praktijkpand aanwezig en kan vragen. beantwoorden of direct ingrijpen mocht dat nodig zijn.
- Deze handeling voer ik vrijwel altijd zelf uit.
- Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit.

- | | |
|--|---|
| Operatiewonden controleren | <input type="checkbox"/> Ik ben fysiek in dezelfde ruimte aanwezig.
<input type="checkbox"/> Ik ben in het praktijkpand aanwezig en kan vragen beantwoorden of direct ingrijpen mocht dat nodig zijn.
<input type="checkbox"/> Deze handeling voer ik vrijwel altijd zelf uit.
<input type="checkbox"/> Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit. |
| Oppervlakkige huid-afkrabsels maken | <input type="checkbox"/> Ik ben fysiek in dezelfde ruimte aanwezig.
<input type="checkbox"/> Ik ben in het praktijkpand aanwezig en kan vragen beantwoorden of direct ingrijpen mocht dat nodig zijn.
<input type="checkbox"/> Deze handeling voer ik vrijwel altijd zelf uit.
<input type="checkbox"/> Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit. |
| Braunules plaatsen | <input type="checkbox"/> Ik ben fysiek in dezelfde ruimte aanwezig.
<input type="checkbox"/> Ik ben in het praktijkpand aanwezig en kan vragen beantwoorden of direct ingrijpen mocht dat nodig zijn.
<input type="checkbox"/> Deze handeling voer ik vrijwel altijd zelf uit.
<input type="checkbox"/> Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit. |
| Infuusvloeistof aansluiten | <input type="checkbox"/> Ik ben fysiek in dezelfde ruimte aanwezig.
<input type="checkbox"/> Ik ben in het praktijkpand aanwezig en kan vragen beantwoorden of direct ingrijpen mocht dat nodig zijn.
<input type="checkbox"/> Deze handeling voer ik vrijwel altijd zelf uit.
<input type="checkbox"/> Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit. |
| Algemene verdoving (premedicatie, inductie, toedienen) | <input type="checkbox"/> Ik ben fysiek in dezelfde ruimte aanwezig
<input type="checkbox"/> Ik ben in het praktijkpand aanwezig en kan vragen onderhoud) beantwoorden of direct ingrijpen mocht dat nodig zijn.
<input type="checkbox"/> Deze handeling voer ik vrijwel altijd zelf uit.
<input type="checkbox"/> Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit. |
| Plaatselijke verdoving toedienen | <input type="checkbox"/> Ik ben fysiek in dezelfde ruimte aanwezig.
<input type="checkbox"/> Ik ben in het praktijkpand aanwezig en kan vragen beantwoorden of direct ingrijpen mocht dat nodig zijn.
<input type="checkbox"/> Deze handeling voer ik vrijwel altijd zelf uit.
<input type="checkbox"/> Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit. |
| Vaccineren | <input type="checkbox"/> Ik ben fysiek in dezelfde ruimte aanwezig.
<input type="checkbox"/> Ik ben in het praktijkpand aanwezig en kan vragen beantwoorden of direct ingrijpen mocht dat nodig zijn.
<input type="checkbox"/> Deze handeling voer ik vrijwel altijd zelf uit.
<input type="checkbox"/> Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit. |

- Chippen
- Ik ben fysiek in dezelfde ruimte aanwezig.
 - Ik ben in het praktijkpand aanwezig en kan vragen beantwoorden of direct ingrijpen mocht dat nodig zijn.
 - Deze handeling voer ik vrijwel altijd zelf uit.
 - Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit.
- Tanden/kiezen
extraheren
- Ik ben fysiek in dezelfde ruimte aanwezig.
 - Ik ben in het praktijkpand aanwezig en kan vragen beantwoorden of direct ingrijpen mocht dat nodig zijn.
 - Deze handeling voer ik vrijwel altijd zelf uit.
 - Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit.
- Eigenaren begeleiden
bij het afvallen van hun
dier
- Ik ben fysiek in dezelfde ruimte aanwezig.
 - Ik ben in het praktijkpand aanwezig en kan vragen beantwoorden of direct ingrijpen mocht dat nodig zijn.
 - Deze handeling voer ik vrijwel altijd zelf uit.
 - Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit.
- Operaties voorbereiden
(patiënt wassen/scheren
etc.)
- Ik ben fysiek in dezelfde ruimte aanwezig.
 - Ik ben in het praktijkpand aanwezig en kan vragen beantwoorden of direct ingrijpen mocht dat nodig zijn.
 - Deze handeling voer ik vrijwel altijd zelf uit.
 - Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit.
- Urinekatheters plaatsen
- Ik ben fysiek in dezelfde ruimte aanwezig.
 - Ik ben in het praktijkpand aanwezig en kan vragen beantwoorden of direct ingrijpen mocht dat nodig zijn.
 - Deze handeling voer ik vrijwel altijd zelf uit.
 - Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit.
- Hechtingen verwijderen
- Ik ben fysiek in dezelfde ruimte aanwezig.
 - Ik ben in het praktijkpand aanwezig en kan vragen beantwoorden of direct ingrijpen mocht dat nodig zijn.
 - Deze handeling voer ik vrijwel altijd zelf uit.
 - Niet van toepassing, deze handeling voeren wij in mijn/onze praktijk niet uit.

Ruimte voor toelichting:

4. Ik vind het onduidelijk welke handelingen paraveterinair volgens de wet wel en niet mogen uitvoeren.
- Eens Deels eens Neutraal Deels oneens Oneens Weet ik niet

5. Ik vind het onduidelijk bij welke handelingen ik fysiek in dezelfde ruimte aanwezig moet zijn.
 Eens Deels eens Neutraal Deels oneens Oneens Weet ik niet
6. Ik vind het onduidelijk bij welke handelingen ik niet perse in dezelfde ruimte, maar wel in het praktijkpand aanwezig moet zijn.
 Eens Deels eens Neutraal Deels oneens Oneens Weet ik niet
7. Paraveterinair moeten ten aanzien van de wet meer bevoegdheden krijgen.
 Eens Deels eens Neutraal Deels oneens Oneens Weet ik niet
8. Indien u het (deels) eens bent met de bovenstaande stelling, welke bevoegdheden?
9. Het is voor mij duidelijk welke kennis en vaardigheden paraveterinair tijdens de opleiding opdoen/geleerd krijgen.
 Eens Deels eens Neutraal Deels oneens Oneens Weet ik niet
10. Het niveau van de huidige opleidingen paraveterinair is voldoende.
 Eens Deels eens Neutraal Deels oneens Oneens Weet ik niet
11. Er moeten aanvullende/verdiepende Hbo-opleidingen voor paraveterinair worden gerealiseerd.
 Eens Deels eens Neutraal Deels oneens Oneens Weet ik niet
12. Hoeveel FTE paraveterinair heeft u ongeveer in dienst?
 0-1
 1-2
 2-3
 3-4
 4-5
 >5
13. Van wat voor soort praktijk bent u (mede)eigenaar?
 Gezelschapsdieren
 Landbouwhuisdieren
 Paarden
 Gemengd
14. Welke zorg wordt in uw praktijk aangeboden?
 Eerstelijns
 Tweedelijns (op verwijzing)
 Eerstelijns en tweedelijns
 Uitsluitend spoedeisende hulp (spoedkliniek)

Appendix B – Additional presentation of results

RVNs - Practice related information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Small animals	254	63,8	74,5	74,5
	Farm animals	1	0,3	0,3	74,8
	Horses	86	21,6	25,2	100
	Mixed	341	85,7	100	
	Total	57	14,3		
Missing	System	398	100		

Table 1 Kind of practice employed in

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary care	246	61,8	72,1	72,1
	Secondary care	14	3,5	4,1	76,2
	Primary and secondary care	79	19,8	23,2	99,4
	Emergency care exclusively	2	0,5	0,6	100
	Total	341	85,7	100	
Missing	System	57	14,3		
Total		398	100		

Table 2 Kind of care provided by practice

RVNs – Team related information

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	218	54,8	54,8	54,8
Partly agree	121	30,4	30,4	85,2
Neutral	24	6	6	91,2
Partly disagree	25	6,3	6,3	97,5
Disagree	10	2,5	2,5	100
Total	398	100	100	

Table 3 Answers on the statement 'Within our team of veterinary nurses it is clear to me who is responsible for which tasks'

RVNs – Remaining information

	N	Minimum	Maximum	Mean	Std. Deviation	CL
If you would have to grade the current position and corresponding role of veterinary nurses, what would it be?	343	3	10	7,09	1,377	6,94-7,24
Valid N (listwise)	343					

Table 4 Perception of current position and corresponding role of veterinary nurses

POs - Practice related information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Small animals	98	60,1	70,5	70,5
	Farm animals	2	1,2	1,4	71,9
	Horses	1	0,6	0,7	72,7
	Mixed	38	23,3	27,3	100
	Total	139	85,3	100	
Missing	System	24	14,7		

Table 5 Kind of practice owned

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary care	101	62	72,7	72,7
	Secondary care	2	1,2	1,4	74,1
	Primary and secondary care	36	22,1	25,9	100
	Total	139	85,3	100	
Missing	System	24	14,7		
Total		163	100		

Table 6 Kind of care provided by owned practice

POs – Remaining information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	47	28,8	29,9	29,9
	Partly agree	66	40,5	42	72
	Neutral	20	12,3	12,7	84,7
	Partly disagree	16	9,8	10,2	94,9
	Disagree	8	4,9	5,1	100
	Total	157	96,3	100	
Missing	I don't know	6	3,7		
Total		163	100		

Table 7 Answers to the statement 'I optimally utilize my RVNs knowledge and skills'

Information about degree of delegation

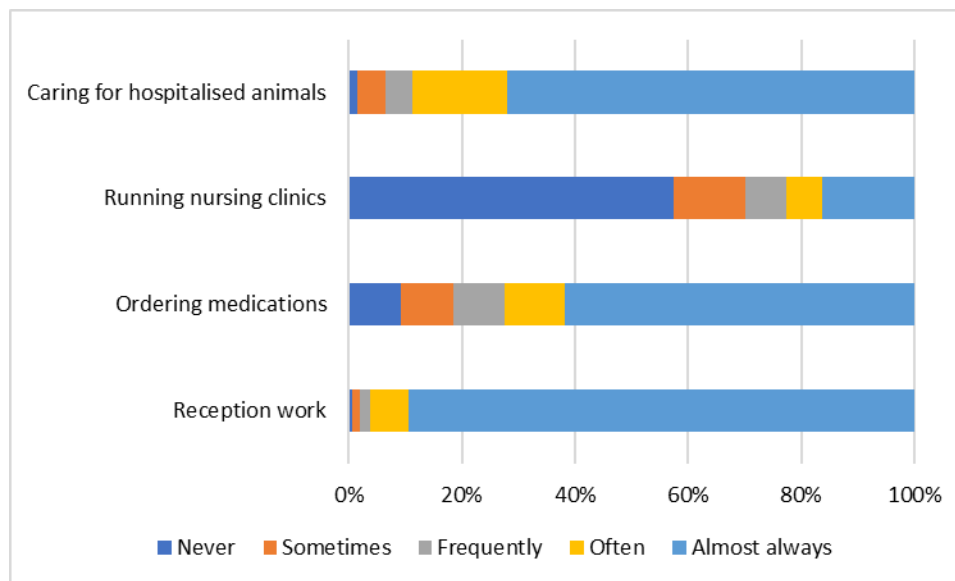


Figure 1 Degree of task delegation as perceived by RVNs (N= 362, TFM = 36), percent frequencies

	Never	CI (Never)	Sometimes	Frequently	Often	Almost always
Taking blood samples	38,4	33,5-43,5	30,9	12,2	9,1	9,4
Dental hygiene work	22,9	18,8-27,5	17,1	19,1	16,0	24,9
Taking x-rays	20,4	16,5-24,8	24,3	21,5	17,4	16,3
Microscopic urine sediment examination	16,00	12,5-20,1	9,1	16,3	19,1	39,5
Bandaging	34,0	29,2-39,0	37,8	14,1	8,8	5,2
Pre-anesthetic physical exam	56,1	51,9-61,1	21,3	9,1	6,6	6,9
Intubation	21,8	17,8-26,3	16,9	15,2	13,5	32,6
Castrate a male cat	45,3	40,2-50,5	14,6	7,7	9,7	22,7
Suturing wounds	78,7	74,3-82,7	14,1	4,4	1,9	0,8
Stapling wounds	79,0	74,6-83,0	13,5	3,6	3,0	0,8
Puppy check	49,2	44-54,3	13,0	7,5	7,5	22,9
Postoperative inspection of wounds	24,0	19,8-28,6	26,8	17,1	13,0	19,1
Superficial skin scrapes	85,4	81,4-88,7	10,2	3,0	0,3	1,1
Placing an IV catheter	33,1	28,4-38,1	27,3	12,7	11,3	15,5
Administration of intravenous fluid	8,3	5,8-11,5	18,5	21,5	22,9	28,7
Administration of sedative or	22,7	18,6-27,2	22,7	19,9	16,3	18,5

general anesthetics						
Administration of local anesthetics	50,3	45,1-55,4	29,6	9,1	4,7	6,4
Vaccination	69,1	64,2-73,7	22,9	5,5	1,4	1,1
Microchipping	28,2	23,7-33,0	37,8	21,8	8,0	4,1
Extraction of teeth	71,0	66,2-75,5	18,2	4,7	2,8	3,3
Weight management	20,2	16,3-24,5	22,7	14,1	14,1	29,0
Preparation of surgical patients	2,8	1,4-4,8	3,9	5,0	11,0	77,3
Placing a urinary catheter	58,8	53,7-63,8	22,9	9,4	6,9	1,9
Faecal examination	14,6	11,3-18,6	18,8	10,2	14,1	42,3
Removing surgical sutures	20,2	16,3-24,5	32,9	15,7	10,8	20,4

Table 8 Perception of degree of delegation to veterinary nurse by RVNs (N= 362, TFM= 36), percent frequencies

	Never	CI (Never)	Sometimes	Frequently	Often	Almost always
Taking blood samples	38,7	31,2-46,6	30,0	14,0	9,3	8,0
Dental hygiene work	16,0	10,8-22,5	16,7	12,7	22,7	32,0
Taking x-rays	25,3	18,9-32,7	24,7	21,3	20,0	8,7
Microscopic urine sediment examination	18,0	12,5-24,7	14,0	20,0	24,0	24,0
Bandaging	34,7	27,4-42,5	32,0	19,3	9,3	4,7
Pre-anesthetic physical exam	65,3	57,5-72,6	21,3	3,3	5,3	4,7
Intubation	30,0	23,1-37,7	13,3	12,7	15,3	28,7
Castrate a male cat	55,3	47,3-63,1	13,3	3,3	8,0	20,0
Suturing wounds	84,7	78,3-89,7	10,7	2,0	1,3	1,3
Stapling wounds	81,3	74,5-86,9	13,3	2,0	1,3	2,0
Puppy check	36,7	29,3-44,6	11,3	8,7	7,3	36,0
Postoperative inspection of wounds	35,3	28,0-43,2	26,0	14,7	10,7	13,3
Superficial skin scrapes	82,7	76,0-88,1	11,3	2,0	1,3	2,7
Placing an IV catheter	42,7	35,0-50,7	24,0	8,7	12,0	12,7
Administration of intravenous fluid	16,0	10,8-22,5	16,7	20,0	28,7	18,7
Administration of sedative or	40,7	33,0-48,6	23,3	14,0	10,7	11,3

general anesthetics						
Administration of local anesthetics	64,0	56,1-71,4	28,7	4,0	0,7	2,7
Vaccination	79,3	72,3-85,2	16,7	1,3	1,3	1,3
Microchipping	46,0	38,2-54	30,7	13,3	6,0	4,0
Extraction of teeth	73,3	65,9-79,9	16,0	6,0	2,7	2,0
Weight management	10,7	6,5-16,4	8,7	13,3	22,7	44,7
Preparation of surgical patients	3,3	1,3-7,2	0,7	4,0	9,3	82,7
Placing a urinary catheter	61,3	53,4-68,8	20,7	10,0	5,3	2,7
Faecal examination	20,0	14,2-26,9	15,3	9,3	27,3	28,0
Removing surgical sutures	23,3	17,1-30,6	28,0	16,0	18,0	14,7

Table 9 Perception of degree of delegation to veterinary nurses by POs (N= 150, TFM= 13), percent frequencies

Information about supervision

	1	2		3	4
	Valid percent	Valid percent	Total valid count	Count	Count
Taking blood samples	15,5	84,5	200	143	3
Dental hygiene work	8,1	91,9	260	75	11
Taking x-rays	15,4	84,6	267	74	5
Bandaging	21,0	79,0	186	158	2
Pre-anesthetic physical exam	26,5	73,5	132	202	12
Intubation	22,8	77,2	263	80	3
Castrate a male cat	17,4	82,6	184	147	15
Suturing wounds	41,0	59,0	78	262	6
Stapling wounds	33,8	66,2	77	251	18
Postoperative inspection of wounds	5,1	94,9	234	108	4
Superficial skin scrapes	38,6	61,4	44	289	13
Placing an IV catheter	18,0	82,0	217	121	8
Administration of intravenous fluid	11,2	88,8	304	40	2
Administration of sedative or general anesthetics	28,9	71,1	235	108	3
Administration of local anesthetics	34,3	65,7	140	197	9
Vaccination	28,2	71,8	103	229	14
Microchipping	11,5	88,5	243	94	9

Extraction of teeth	30,3	69,7	109	224	13
Preparation of surgical patients	5,8	94,2	330	15	1
Placing a urinary catheter	29,0	71,0	131	209	6
Removing surgical sutures	4,9	95,1	263	80	3

Table 10 Level of supervision during activities according to RVNs (N = 346), percent frequencies

1= Veterinarian physically present and within visual range (in the same room)

2= Veterinarian physically present in the building and able to answer questions / respond quickly

3= Performed by another RVN or a veterinarian

4= Activity not performed at clinic

	1	2	3	4
	Valid percent	Valid percent	Total Count	Count
Taking blood samples	19,3	80,7	57	81
Dental hygiene work	21,2	78,8	113	25
Taking x-rays	21,1	78,9	90	38
Bandaging	16,1	83,9	62	76
Pre-anesthetic physical exam	18,2	81,8	33	103
Intubation	43,2	56,8	88	44
Castrate a male cat	24,5	75,5	53	83
Suturing wounds	18,2	81,8	11	125
Stapling wounds	26,3	73,7	19	112
Postoperative inspection of wounds	7,2	92,8	83	55
Superficial skin scrapes	18,8	81,3	16	120
Placing an IV catheter	31,9	68,1	69	69
Administration of intravenous fluid	21,6	78,4	116	22
Administration of sedative or general anesthetics	51,6	48,4	64	73
Administration of local anesthetics	64,7	35,3	34	101
Vaccination	15,0	85,0	20	118
Microchipping	10,1	89,9	69	69
Extraction of teeth	35,3	64,7	34	102
Preparation of surgical patients	20,1	79,90	134	4
Placing a urinary catheter	6,5	93,5	93	44
Removing surgical sutures	36,7	63,3	30	106

Table 11 Level of supervision during activities according to POs (N = 140), percent frequencies

1= I am physically present and within visual range (in the same room)

2= I am physically present in the building and able to answer questions / respond quickly

3= I perform this activity myself

4= Activity not performed at my clinic